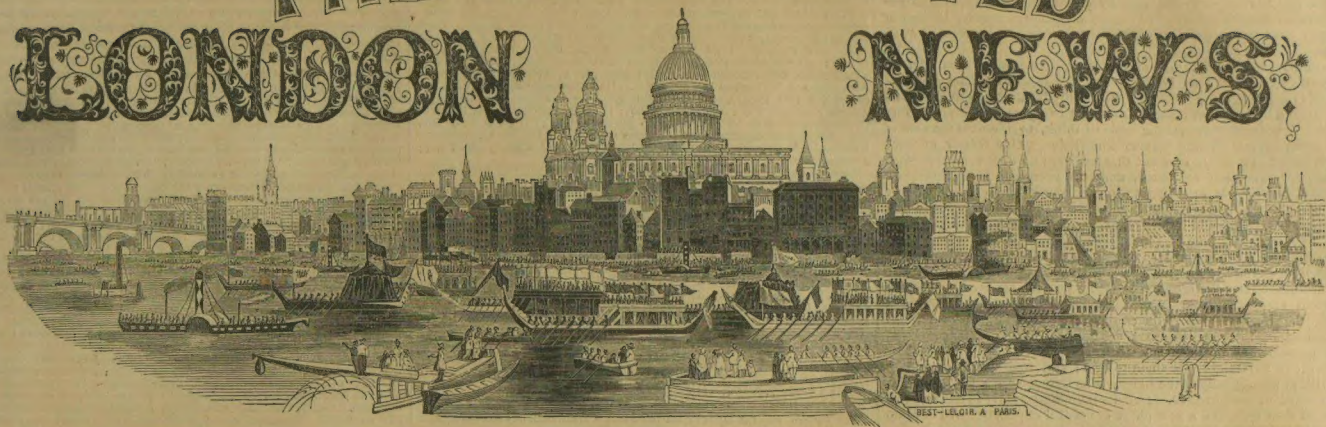


# THE ILLUSTRATED LONDON NEWS



No. 511.—VOL. XIX.]

SATURDAY, AUGUST 23, 1851.

{ Two NUMBERS, 1s.  
WITH LARGE SHEET, GRATIS.

## THE LIBERTIES OF EUROPE.

LIBERTY and Independence are passions among the three great nations of Continental Europe. France clamours loudly for the first, while Italy and Germany clamour as loudly for them both. But does France, which loves liberty with a madness or an enthusiasm proved by the blood and tears of upwards of sixty years, really understand what the word means? or are Italy and Germany better fitted than France to appreciate and enjoy the freedom which they crave, or the independence which is the day-dream of their most ambitious and generous spirits? We may be permitted to doubt, in all these instances, whether the struggle which now rages over Europe with more or less intensity, is not the commencement, rather than the close of a series; and whether each of these celebrated nations has not a great deal to learn and to suffer before the mass of the people can hope to exercise even the commonest rights of free citizenship. There seems to be something wrong with them all. There is an impatience which spoils the best laid schemes, and frustrates the most admirable intentions; and an ignorance of the first principles of popular tranquillity and social progress, which renders all government practically impossible, but that species of government which is effectual with mankind in the rudest state—the government of brute force.

It is somewhat humiliating in this highly polished Europe, instructed as it should have been by the wisdom of four thousand years, to make such a confession. But the truth is as we state it. Scarcely three summers have passed away since the kingdoms of the Continent were shaken to their foundations by a succession of popular insurrections, bursting one after the other like the reverberations of an alpine thunder-storm. Nation after nation, which either smarted under the yoke of domestic oppression or of foreign misrule, or imagined that it had grievances calling for so perilous a remedy, overthrew its Government and sent its King and Ministers into exile. In no case has the result been satisfactory. If we cast our eyes over the political map, we see that everywhere a fierce warfare has been carried on in the name of public tranquillity;

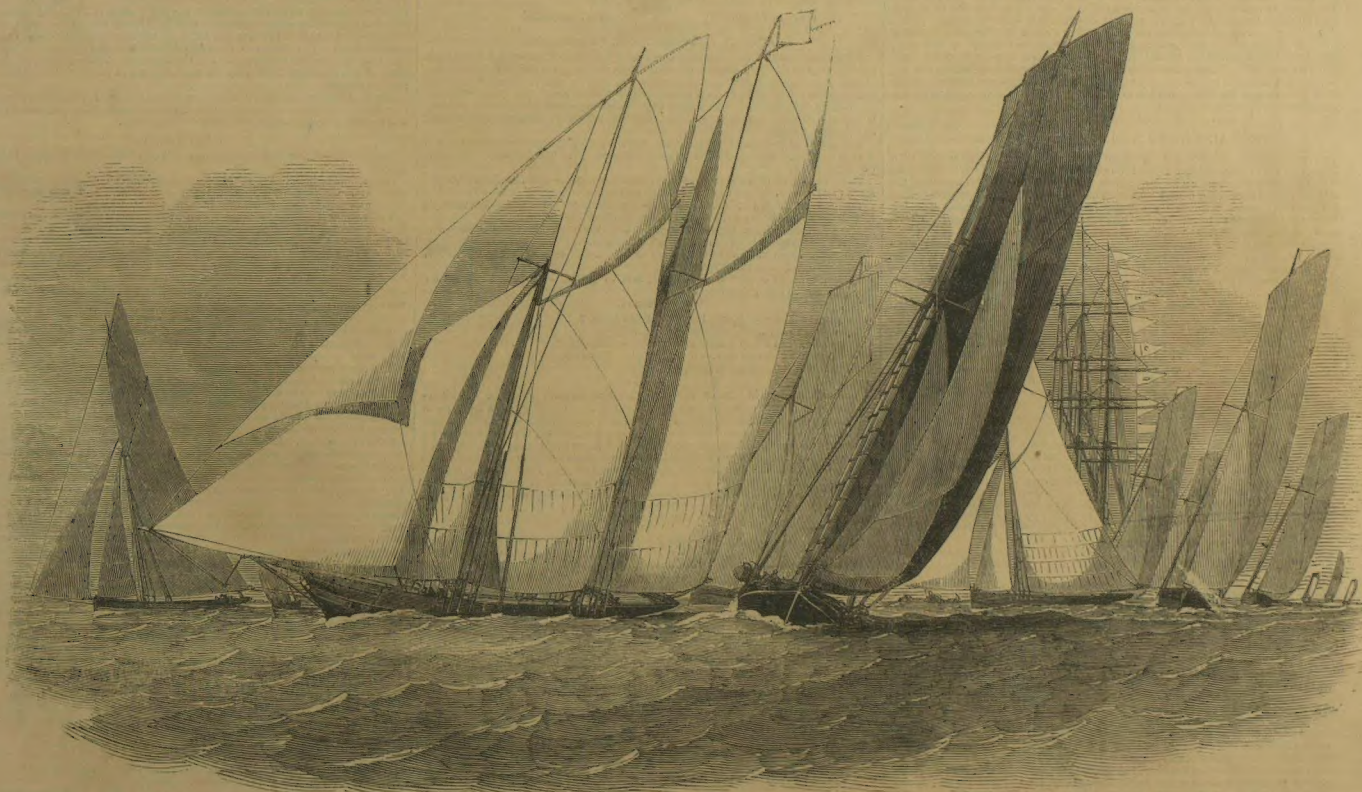
that the middle and upper classes, frightened at some more horrible vision than ever before took shape amid the clouds and smoke of revolutions, have united against the anarchists and the popular heroes of the *carrefours*; and that the people—in the widest sense of the term—who, before that era of social hurricanes, were to some extent free to think, to write, or to speak, have been deprived of the little liberty they enjoyed; and that a stern, unflinching, if not sanguinary despotism, has been established upon the ruins of the past. In the midst of an age more highly civilised than any other of which the annals of mankind offer us any record, the sword has become the supreme arbiter of mundane affairs. The cities of Europe are filled with armed men, their walls bristle with cannon or with bayonets, war-banners flaunt in the public squares, the music of the drum and the trumpet is heard above all the ordinary bustle of populous places, and men are so occupied with warfare, or with the fear of it, that the cultivation of the fields and the gathering of the harvest is left to the women and the children. What hope is there of the liberties of any nation that keeps up an army of half a million of men? Every year, every month, nay, every week and day, that such a mighty multitude is maintained at the public expense, and prevented from employing its skill and industry in the rational and useful occupations of life, is a stumbling-block laid in the way of present and future happiness and freedom. Such is the state of France—such is the state of Germany—and such, with the difference that the armed men are, for the most part, foreigners, and not natives—is the state of Italy in 1851.

In the case of France, the worst feature is, that the people do not consider this formidable army as any particular nuisance. The national vanity is flattered at the idea of such a splendid military force; and every man of mature age either is, has been, or will be a soldier. In addition to this, he feels like a soldier. When this is the sentiment and practice of the people—when the notion is almost universally spread amongst them, that the victories of Napoleon are the events which reflect the highest

lustre upon the French name, and make them the foremost nation in the ranks of the world—and when we add to this the equally significant facts, that they have nothing else to be proud of; that they are what may be called a “self-contained” people; that their commercial resources are in an inverse ratio with their military operations and resources; that they have overthrown without building up; and that they have scarcely an institution that is a quarter of a century old, we see at a glance that French liberty may be much spoken of, but must be little understood. In fact, we are afraid that every Frenchman interprets “liberty” to mean liberty for his individual self, but the slavery of every other person whose theories or practice might interfere with his own; and we are impressed with the sorrowful conviction, that France is, after all, but a semi-barbarous nation, splendid, no doubt, but rotten and unsafe; having all to learn and much to endure before it can be really fitted for the enjoyment of equable and rational liberty.

The condition of Germany is almost equally humiliating to those who look to the social progress of Europe. A military despotism has succeeded to anarchy; and the phantom of a Democratic and Social Republic, which has scared the rulers of the people, and infected the bulk of the middle class with a preposterous alarm, renders the despotism of the sword comparatively easy, by lending it the support of all those classes which have anything to lose by change or commotion. Even the German Fatherland—that ideal unity, so beautiful in songs and in theory—loses its attractions when this grim spectre is evoked; and Germany keeps up a multitudinous army against herself, and postpones indefinitely the freedom which such an assemblage of intelligent nations has a right to expect.

The case of Italy is different, and perhaps more deplorable;—for the French and the Germans, if they suffer a despotism, have imposed it upon themselves. The tyrants of France are, at all events, Frenchmen; and those of Germany, Germans. Not so in the fairest portions of Italy, where the oppressors are foreigners, and infuse an additional bitterness into the draught of the popular de-



THE ROYAL VICTORIA YACHT SQUADRON REGATTA.—THE “FERNANDE” AND “ANACONDA” PASSING HYDE.—(SEE NEXT PAGE.)



The only part that has been in perfect repose is the Decan, in which all the troops are now quartered. The Decan is a peaceful and fertile country, but the troops in his Highness the Nizam's pay are troublesome and mutinous, his treasury empty from extravagance and mismanagement, and his enormous debt to the East India Company daily increasing. This latter amounts to a lack of rupees, or £200,000; and, as an indication of the beginning of the end of the Presidency, the Government have ordered that the Nizam's share of the Dividend to the Governor-General have been re-levied by the President at Hyderabad to take and keep possession of certain parts of the Nizam's dominions.



The importance of success in the above striking of the coal may be inferred from the fact that it insures employment to between two and three hundred men, and, including the wives and children, food to a thousand souls. The district is one of the richest mineral basins in the





PEACE, TEMPERANCE, AND BOND OF UNIVERSAL BROTHERHOOD FESTIVAL, AT HARTWELL, BUCKS.

world. The seam of coal found is 3 ft. 10 in. thick, and the best for coking purposes. The proprietor of these new works is the contractor for supplying all the coal used on the Great Western Railway for coke. Notwithstanding the immense progress making here in mining adventure, what has been done, compared to the immense field still untouched, is best summed up in an expression of Sir Henry de la Beche some years ago, when surveying geologically this county, "This mineral basin," said Sir Henry, "has hitherto only been scratched."

#### HARTWELL FESTIVAL.

THE tenth annual gathering of the friends of "Universal Peace, Temperance, and Brotherhood," at Hartwell Park, near Aylesbury, Bucks, took place on Wednesday and Thursday, the 13th and 14th instant. The weather being propitious, the festival was attended by great numbers of both sexes, and the beautiful park was teeming with animation and gaiety. The interesting mansion, formerly the residence of Louis XVIII. of France while in exile, together with the grounds at various points, exhibited the flags of all nations, in harmony with the design of the festival, viz. "Peace and good-will among men." The business was conducted by a committee of Aylesbury and the vicinity, much to their credit for the order and the gratification of the meeting.

On these occasions Dr. John Lees, F.R.S., &c., opens his mansion and his park for the accommodation of the numerous visitors; and, with a cordial hospitality and generous concession to the public, as well as his friends and neighbours, diffuses, by his countenance and example, the spirit which the name of the festival expresses; an example duly appreciated by the liberal and benevolent, and one which it were to be wished more generally pervaded the higher class to which the learned Doctor appertains.

"Aylesbury, with a population of 6000 souls, possesses not an inch of ground for the recreation of man, woman, or child." This beautiful spot, within two miles of the town, is, therefore, resorted to with eagerness, on the announcement that its gates are opened for two happy days of festivity and intellectual and benevolent attractions.

On Wednesday afternoon, as the accompanying Sketch represents a large and well-conducted assembly was seated before a platform extemporised out of several farm wagons, and sheltered by suitable awnings, in case of need, from our variable climate.

The business commenced under the presidency of a gentleman from Amsterdam, M. Suringar, distinguished in his own country for works of benevolence in which he has expended a considerable fortune. He spoke mostly in English, recommending the objects of the meeting, and observing, that the great duty of man is "to give and to forgive." The intemperate has nothing to give, and the quarrelsome is unforgiving.

Dr. Lee welcomed his friends, neighbours, and visitors to the festival; adverted to the progress of the cause of peace since their last meeting, by the opening of the Crystal Palace, by the pacific character of the late Royal speech, by the great Peace Congress of London last month, and by the impression made on the minds of all classes among us, as particularly exemplified by the eminent astronomer, Mr. Hind, naming his last new planet "Irene," or "the Planet of Peace." The learned Doctor then touched on the progress of the temperance movement in the United States, France, Germany, Norway, and Sweden, as well as in Great Britain. In connexion with further remarks on the bond of universal brotherhood, so zealously promoted by Elihu Burritt, he introduced to the meeting a great work by Mr. Leone Levi, on the establishment of a code of international law, patronised by Prince Albert, Lord Harrowby, and other persons of high distinction—a work of important influence in the advancement of the peace of nations.

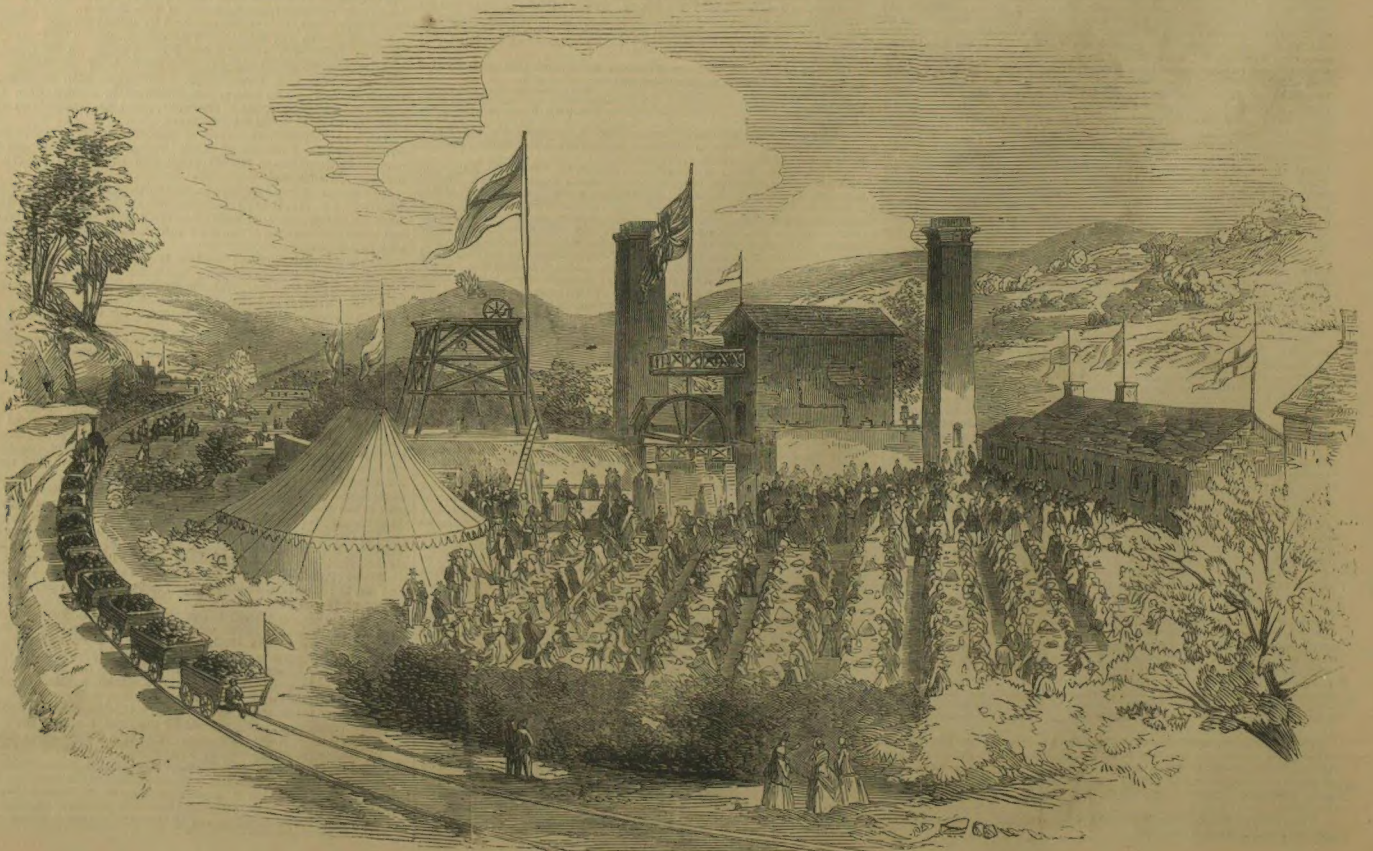
Several gentlemen then successively addressed the meeting, until five o'clock, when there was an interval for taking refreshments in the spacious booths on the ground, and for various sports and recreations among the young people, who all heartily and thoroughly enjoyed their holiday. The proceedings were enlivened by an excellent band of musicians from Thame.

In the evening, speaking was resumed, and the festivities of the day were concluded by the ascent of a handsome fire-balloon, which careered its brilliant way through the sky with intelligence to town and country of the peaceful issue of the day; while the very heavens themselves testified to the same event by one of the grandest pyrotechnic displays we ever witnessed—a magnificent towering alpine cloud, illuminated with awfully grand coruscations and flashes of lightning, indicating the presence of a storm, which was afterwards known to have burst with great violence over the country no further distant than five miles.

The following day was occupied in a similar manner to that just described.

The persons who addressed the meetings rose as follows:—The Rev T. Pyne, A.M.; Dr. Lovell, Mr. Lockhart, Rev. Amos Duser, of Ohio United States; Mrs. Hiram Tracey, from Columbia; Mr. Adams, of Luton; Mr. Chamerovzow (secretary of the Aborigines Protection Society); Mr. John Houghton, Mr. Elihu Burritt, Mr. Charles Gilpin, of London; Mr. Gamble, of Berkhamstead; Miss Ann Knight (Society of Friends); Mr. J. Gibbs, Rev. Joshua Turnbull, A.B.; Dr. Camps, M.D. James Yates, Esq., A.M., F.R.S.; W. H. Black, Esq.; Rev. H. Richard (Secretary of the Peace Society).

A great variety of topics, as well as of eloquence, was thus secured, and the great and sacred cause of peace, sobriety, and brotherly feeling in the human family was, no doubt, much promoted by the festive gathering.



FETE IN CELEBRATION OF "WINNING THE COAL," ON THE RHONDDA BRANCH OF THE TAFF VALE RAILWAY.





THE WAR IN KAFFRARIA.—KAFFIRS ATTACKING INFANTRY IN KEISKAMMA GORGE.—(SEE NEXT PAGE.)

# THE ROYAL BELGIAN YACHT CLUB.

This superb cup, presented by his Majesty the King of the Belgians to the Royal Yacht Club, was sailed for by luggers, schooners, and cutters,



CUP PRESENTED BY THE KING OF THE BELGIANS TO THE ROYAL BELGIAN YACHT CLUB.

on Wednesday. The prize is of elegant design, by M. Duriet, of Antwerp; and has been executed in silver-gilt, beautifully chased, by M. Dufour, silversmith to the King, at Brussels. The bowl, or rather tazza, bears representations of sailing matches, and is surmounted with the civic arms and other insignia. The cup is placed upon a circular pedestal, bearing the Belgian crown and the legend "Royal Yacht Club Belge," which the designer of the cup has erroneously inscribed for "Yacht Club Royal Belge."

# EXTENSIVE FIRE AT RICHMOND, AND DESTRUCTION OF PROPERTY.

On Saturday morning, between the hours of one and two, the town of Richmond, in Surrey, was thrown into a state of the utmost alarm and confusion, in consequence of the sudden outbreak of one of the most serious fires that has occurred in that locality for many years; and although an immediate and abundant supply of water was obtained, yet the flames continued to rage for hours. This terrible disaster originated on the premises of Mr. Andrews, a fancy bread and biscuit baker, situate in Upper Hill-street, about a quarter of a mile beyond the Castle Inn, and on the opposite side of the road. Within 100 feet of the house were two large chapels, one belonging to the Independents, and the other to the Roman Catholics.

The outbreak was discovered almost simultaneously by a police constable of the V division, who was on duty in the street, and Mr. Andrews, the owner of the premises. Before the policeman had time to spring his rattle, he found that Mr. Andrews was aroused from sleep by a loud crackling noise in the house. He instantly jumped out of bed; huge volumes of heated smoke, accompanied by showers of sparks, were

mounting towards his bed-room. Mr. Andrews aroused his wife and family, consisting in the whole of six persons. By desperate exertions the residents were enabled to rush through the smoke, and they succeeded in gaining the street; but they had scarcely done so when the flames shot forth from every window in the premises, and quickly fired the workshops of Mr. Webster, a cabinet-maker, next door, and in a few minutes the workshops and the front premises were in a blaze. Mr. Webster, who was confined to his bed with illness, was unable to get up; but several persons rushed through the smoke and heat, and succeeded in carrying him out into the street.

The two engines belonging to Richmond parish were, as soon as possible after the outbreak, on the spot, and plenty of water being obtained, they were called into immediate requisition; and, shortly afterwards, those belonging to Twickenham parish attended, and were likewise set to work. The persons in charge of the engines, seeing that it would be impossible to save any portion of Mr. Andrews' premises, at once set to work, and did all they possibly could to cut off the further extension of the fire in the direction it was then taking, towards the premises of Mr. Luckett, a carver and glider, and the two chapels in the Vineyard. In a very short space of time Mr. Luckett's workshops presented a general



RUINS OF THE FIRE AT RICHMOND, ON SATURDAY LAST.



blaze, and the flames were carried by a stiff breeze through the side windows of the Independent Chapel into the midst of the edifice; when the pews and other wood work took fire, and the flames rose through the roof so high in the air as to light up the country for many miles distant. Seeing the great danger that the adjoining (Roman Catholic) Chapel was exposed to, as well as several other premises, a mounted police-officer was dispatched to London for additional assistance. The mounted police arrived, the brigade engine from the Southwark Bridge-road station, under the direction of Mr. Henderson, the foreman of the southern branch of the London establishment, with a body of firemen, started off for the scene of conflagration.

The firemen and engine belonging to the West of England Insurance Company, under the charge of Mr. Connon, were also despatched to render assistance. Upon reaching the spot a fearful wreck presented itself, for the whole of Mr. Andrews' premises, together with the workshop of Mr. Luckett and Mr. Webster, as well as the spacious chapel belonging to the Independents, were nearly levelled with the ground, and the flames were still ascending many feet above the house-tops. The whole of the firemen from town, as well as those belonging to the local engines, worked in a most persevering manner for several hours, when they at length succeeded in extinguishing the flames. The total loss must reach many thousands of pounds. The whole of the beautiful fittings in the chapel, together with the organ, are consumed. The property of Messrs. Andrews and Webster was insured; Mr. Luckett uninsured; chapel insured.

### THE KAFFIR WAR.

In our Journal of last week, we recorded the state of affairs in Kaffria, to July 4. The engraving upon the preceding page illustrates the mode of warfare pursued in this protracted struggle. It shows an incident in the attack on the Colonial forces under Colonel Mac Kinnon; from a sketch received last week from Mr. Thomas Baines, of Graham's Town. We gather from the despatch, dated 24th July, that the Colonial force, consisting of 1,500 men, at daybreak, with the following force:—6th Regiment—8 officers, 238 rank and file; 73rd Regiment—2 officers, 75 rank and file; C.M.R.—7 officers, 167 rank and file; Kaffir police—2 officers, 90 rank and file. The Colonel proceeded up the valley of the Keiskamma, meeting with the most friendly conduct on the part of the Kaffir until within about three miles of the station. He had previously cautioned the officers not to molest to one on the march, and not to fire unless attacked. Whilst passing through a narrow rocky gorge of the Keiskamma, where the men could only proceed in single file, a fire was opened on the column of infantry, the Kaffir police and Cape Mounted Rifles having already passed the spot. The fire was most resolutely maintained for a considerable period, and the nature of the ground was such that the troops could not dislodge the Kaffir, until they had sustained a serious loss, and the C.M.R. and Kaffir police could not be used in any way to turn the flanks of the attacking party. Assistant Surgeon-General C. M. R. Rifles, 1 corporal, and 5 privates of the 6th Regiment, and 1 corporal of the 73rd Regiment, were killed. Brigade-Major Bisset, C. M. R., and Lieut. Catly, 6th Regiment, were wounded severely (not dangerously); 5 privates, 6th Regiment; and 2 privates, 73rd Regiment, were also wounded.

The troops at last succeeded in clearing the bush and rocks of Kaffria, and in killing a considerable number. The Colonel then proceeded to the neighbourhood of this station, as affording a good clear ground for an encampment, and because he was anxious to afford protection to the Missionary. The Colonel describes the conduct of the troops and Kaffir police to have been admirable, and every possible aid was rendered from the officers commanding the different corps. His Lieutenant Colonel Napier, commanding Cape Mounted Rifles; Captain Robertson, 6th Regiment, commanding the Infantry; and Superintendent Davies, commanding the Kaffir police. The services of Major Bisset, Brigade-Major, were most valuable.

### CALENDAR FOR THE WEEK.

MONDAY, August 24.—Fourth Sunday after Trinity. St. Bartholomew.  
TUESDAY, 25.—David Russell died, 1775. Herschel died, 1822.  
WEDNESDAY, 26.—Prince Albert born, 1819.  
THURSDAY, 27.—Admiral Blake died, 1657.  
FRIDAY, 28.—St. Augustine.  
SATURDAY, 29.—St. John the Baptist beheaded.  
SUNDAY, 30.—The Act for the Abolition of Slavery passed, 1833.

### TIMES OF HIGH WATER AT LONDON-BRIDGE, FOR THE WEEK ENDING AUGUST 30, 1851.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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**BOSWELL'S LIFE OF JOHNSON.—NATIONAL ILLUSTRATED LIBRARY.**—The subscribers and readers of the above Edition of BOSWELL are respectfully informed that no further delay will take place in the issue of the Third and Fourth Volumes. Volume the Third, with copious Illustrations, topographical and historical, will be published on the 8th day of SEPTEMBER next, and the Fourth Volume on the 30th of SEPTEMBER next.

Just published, The MORMONS—A Contemporary History. 2s. 6d.  
The ORIGIN OF YEN. 2s. 6d.  
THE BOOK OF ENGLISH SONGS. 2s. 6d.  
In the press, MACKAY'S MEMOIR OF EXTRAORDINARY POPULAR DELUSIONS. 2 vols. 10s.  
JUCS TRAVELS IN CHINA AND TARTARY, IN 1845-46; and several other Works. Oxfords, 18s and 27s. Strand, London.

**GUYS.—THE MEDICAL SESSION COMMENCES ON** 1st of OCTOBER.—The Introductory Address will be given by BENJAMIN GUY, B.A., M.D., F.R.S., on WEDNESDAY, the 1st of OCTOBER, at 2 o'clock. On a man admitted to the medical profession, it is his duty to his education and to his country. They are required to pay £40 for the first year, £40 for the second year, and £40 for every succeeding year of attendance; or the sum of £100 in one payment will entitle the student to attend for three years.

Dr. Guy, Medical Clerk, Assistant, and Resident Obstetric Clerk are selected according to merit from the students who have attended a second year. The Night Mail Train, leaving London at 10 o'clock, is admitted to enter the names of Students, and to give further information if required.

**NEW ZEALAND.—FOR PORT LYTTELTON, WELLINGTON, AND NEW PLYMOUTH,** the first class ship *PAKIMA*, chartered and propelled by the New Zealand Company, is to sail on the 10th of SEPTEMBER. Rates of passage: Chief Clerk (who will be on board), 41s; Second Clerk, 21s; Third Clerk, 11s. For full particulars, apply to the Agents, Messrs. P. & O. 107, Fenchurch-street, London. Or to the Agents, Messrs. J. & C. 107, Fenchurch-street, London. This ship has superior accommodation for second class passengers.

**BADEN-BADEN.**—Season of 1851.—This year, as usual, the season, which commenced on the 10th of May, will continue until the 31st of October. The magnificent Conversation-Hall has been redecorated with a splendid and comfortable, and most beautiful and convenient, and is now open. The most distinguished artists; the Military Band has never been so numerous or brilliant. Fêtes, Concerts, and Amusements are arranged daily, of the most varied and brilliant. Kings, princes, and the most illustrious personages are at Baden-Baden, or are expected. The season of 1851, thanks to the Great Exhibition of London, will surpass all former ones. The journey from London to Baden-Baden, by the Great Western Railway, is a most agreeable manner, by Belgium, the Rhine, and the German railways, in less than forty hours.

**THE ELEVEN HOURS' ROUTE TO PARIS,** with only Two Double Single-Express Service Daily. A SPECIAL EXPRESS, leaving London at 10 o'clock, and arriving at Paris EVERY MORNING, and EVERY EVENING, reaching Paris in Eleven Hours. Return Tickets (London to Paris and back), available until the 30th September. The Night Mail Train, leaving London at 10 o'clock, and arriving at Paris at 12 o'clock, reaching Paris at 9 o'clock, the following morning, and returning at half-past 9.

**CHESTER AND HOLYHEAD RAILWAY.—REDUCTION** OF FARES.—On and after FRIDAY, August 1st, 1851, Passengers will be booked through, and conveyed by the following Fares, which include the passage between Liverpool and the Coast, either by the Great Western and Holyhead, or by the City of Dublin Company.

	Single Fares.	Return Tickets.
	1st Cl.	2nd Cl.
London to Liverpool	10s. 0d.	18s. 0d.
London to Holyhead	10s. 0d.	18s. 0d.
Liverpool to London	10s. 0d.	18s. 0d.
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Holyhead to Liverpool	10s. 0d.	18s. 0d.

The Return Tickets, between London, Liverpool, Chester, Manchester, and Birmingham, will be available for the return journey on SEVEN days after issue. Those between London and Liverpool only.

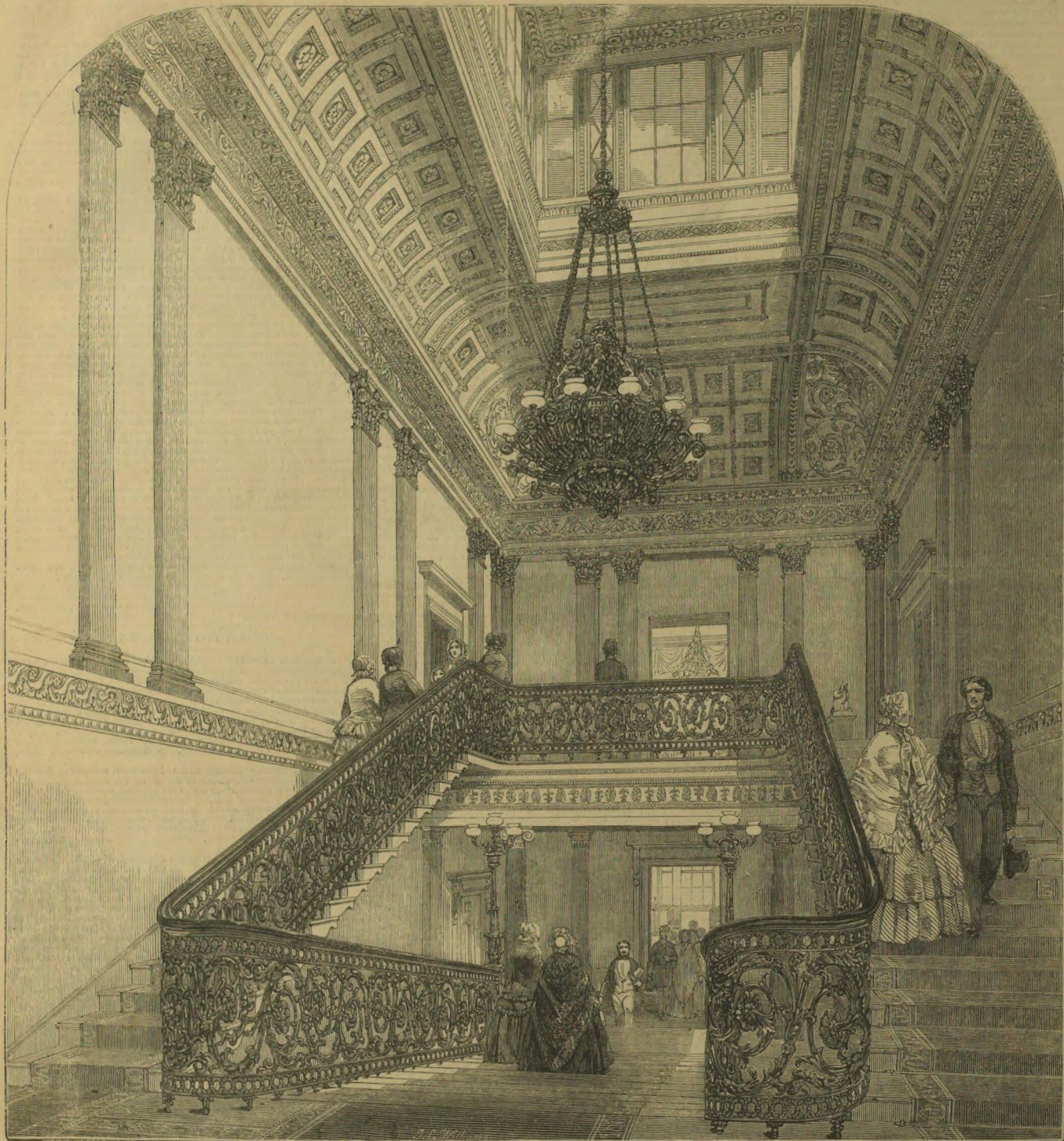
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## N O R T H U M B E R L A N D H O U S E .



INTERIOR OF NORTHUMBERLAND HOUSE.—THE GRAND STAIRCASE.

ONE of the most gratifying and hopeful signs of our time is a disposition beginning to manifest itself in high quarters to relax that habitual reserve, and to qualify that cold exclusiveness in which our aristocracy have too long indulged as an hereditary principle, and to extend civilities to a larger world, with whom, in former days, they were taught to think they could have no reciprocity of sympathies. Another gratifying sign of an age advancing in civilisation—civilisation of the noblest and most useful kind, based upon extended knowledge and good feeling—is the manner in which these favours are received and improved by the public. We are no longer "Quelli bestie di quelli Inglesi," which an Italian writer described us as, in the brutal tyrannical time of Henry VIII., who in vain sought to induce Raffaele to visit his Court; we are no longer the habitual defacers of monuments and public works, from an Apollo Belvidere down to a wooden bench in the Park, which not a generation ago we were said to be, and the reputation of which caused us to be looked upon as Goths and Vandals, and watched with fear and trembling, whenever we darkened the threshold of the *virtuoso* at home or abroad. No, thank Heaven! Education has sown good seed amongst us, and enlarged feelings of self-respect, and mutual respect and mutual good-will, have sprung up amongst us, and much stupid jealousy and prejudice, and misgivings about the fruits of the tree of knowledge have been cast to the winds, and dispersed like a summer's cloud beneath the rays of the resistless sun.

But we are not now about to write a homily; we have only ventured upon a few general reflections which occurred to us the other day as we walked through the stately halls of Northumberland House, one of the oldest and most interesting of the *penetrabilia* of our aristocracy, belonging to one of the proudest and most exclusive of that aristocracy, but which, with the most kindly and generous feeling on the part of the present noble possessor, has for some months past been thrown open to the public in aid of the great and good objects of the international congress of 1851.

The invitation was promptly responded to by the public; and the crowds passing through the rooms, the crowds still collecting round the ancient portal in the Strand, on the three days a week appointed for admission, there have been, we understand, 10,000 or 11,000 visitors, nearly by an average, have testified to the triumphant and unqualified success (as the play-bills have it) of the quiet, rational entertainment which his Grace of Northumberland has

been the first to offer. We have only to add, that we hope his example will be followed by many of his fellows; and that, with a right appreciation of the value of the magnificent works of art which circumstances have made their own, they will find that they do not enjoy half their fruit till their instructive and humanizing influence has been extended to their humbler neighbours.

It is not, however, so much as a picture-gallery, as for its individual history, that Northumberland House claims our attention, although it contains, amongst several works of merit and value, some few of extreme interest. We shall begin with the history and description of the building itself.

Northumberland House—formerly successively known as Northampton House and Suffolk House—stands on the site of an ancient Hospital or Chapel of St. Mary, founded in the time of Henry III., by William Mareschall, Earl of Pembroke, on a piece of ground which he had given to the Priory of Ronciaval, or De Rosida Valle, in Navarre. That chapel was suppressed among the alien priories in the reign of Henry V., but was afterwards restored to the fraternity by Edward IV. After the final dissolution of religious houses, the site was granted by Edward VI. to Thomas Cardigan. The estate afterwards came into the possession of Henry Howard, Earl of Northampton, Lord Privy Seal, who erected a splendid mansion, called, after him, Northampton House, in which he died in 1614. By his will it passed to his kinsman, Thomas Howard, of Walden, Earl of Suffolk, when it received the name of Suffolk House. Finally, by the marriage of Algernon Percy, Earl of Northumberland, with Elizabeth, daughter and heiress of Theophilus, the second Earl of Suffolk, about the year 1642, it became the property of the former family, and has since acquired the name of Northumberland House. On the death of Jocelyn Percy, the son of Algernon last mentioned, his only daughter, Elizabeth, became heiress to the estates; who married, 1682, Charles Seymour, the proud Duke of Somerset. The issue of this marriage, Algernon Earl of Hertford and seventh Duke of Somerset, succeeded on the death of his male parent in 1749, and was created Earl of Northumberland. In the following year, with remainder, failing issue male, to Sir Hugh Smithson, Bart., the son of his only daughter; which Sir Hugh Smithson was created Duke of Northumberland in 1766, and was the grandfather of the present Duke, and of his immediate predecessor. It will be observed, from this genealogical sketch, that although the present noble owner is the lineal descendant of the first founders of Northamp-

ton or Suffolk House, their inheritance has thrice devolved through female branches in the course of a couple of centuries.

The edifice originally consisted of three sides of a spacious quadrangle, the fourth remaining open to the gardens and river Thames. Bernard Jansen was the architect of the principal part; but the *finis* towards the street was the work of Gerard Christman, who designed Aldersgate, which was rebuilt in the same reign, namely, that of James I. At that period the principal apartments were on the Strand side; but upon the accession of Algernon, Earl of Northumberland, who could not bear the noise of the street, he caused a fourth side to be added (which included the state-rooms) towards the river, under the direction of Inigo Jones. The entire pile was built in a mixed style of architecture, and had domed towers at the angles (in the Dutch style), two of which, on the street side, still remain. Evelyn, in his "Diary," under date June 8, 1658, records a visit to Suffolk House, and says:—"The new front towards the gardens is tolerable, were it not drowned by a too massive and clumsy pair of stayes of stone, without any neat invention."

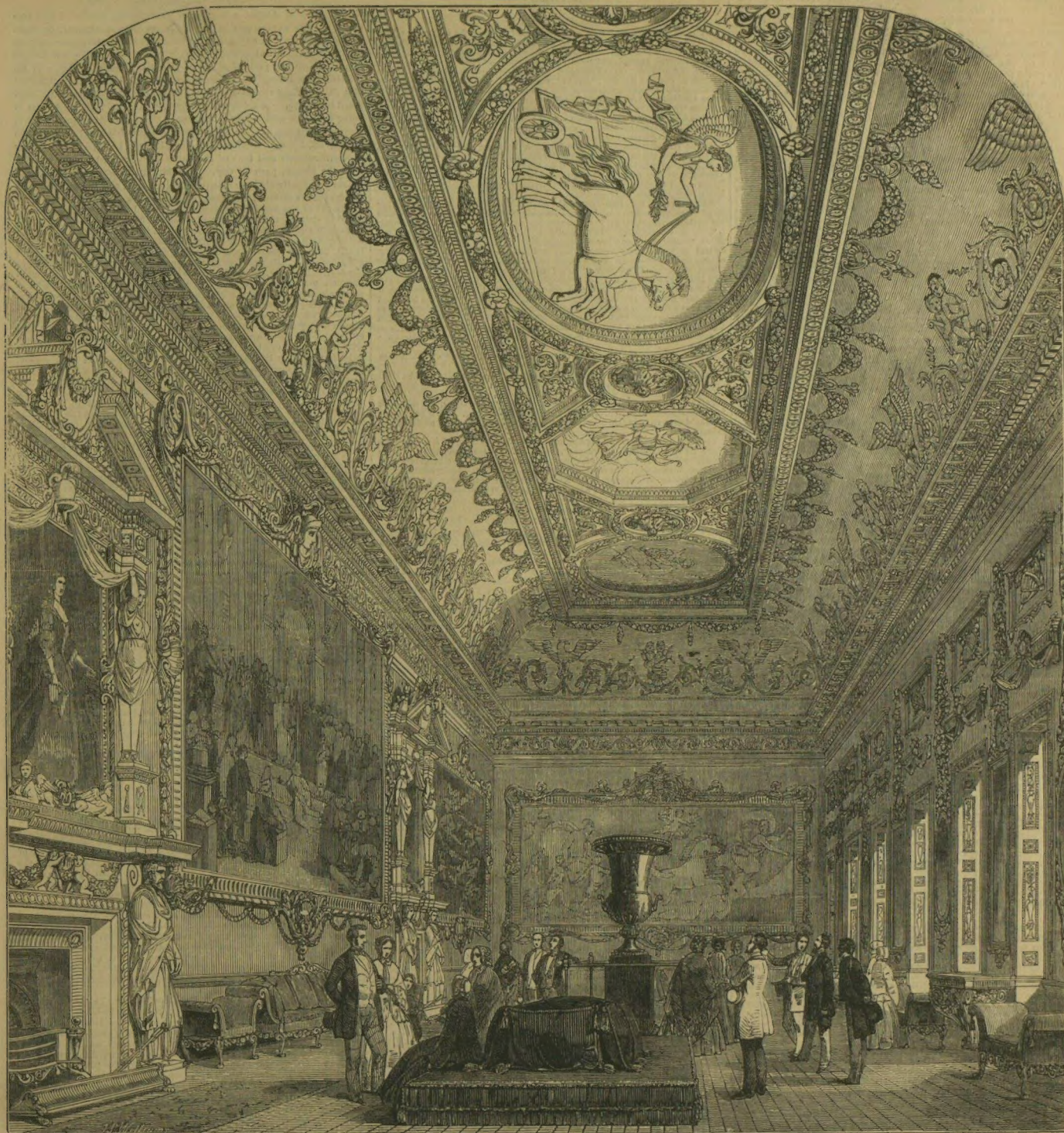
There is a drawing by Hollar of Suffolk House from the river side, with the "new front" added, which has been copied by Wilkinson and also by Breyler (in his "Londiniana"), which we engrave, as a memorial of interest both as regards topographical history and the great architect engaged upon the work. It was in a conference held in one of these apartments between the Earl of Northumberland, General Monk, and some of the leading men of the nation, that the Restoration of Charles II. was proposed and planned.

Inigo Jones's river front, whatever its merits or demerits in the eyes of Evelyn, exists no longer, although we have no record of the period of its removal. All that is certain in connexion with this building is, that, upon the succession of Sir Hugh Smithson, in 1749-50, he began to make very extensive alterations and additions to it. Amongst other things, he built two new wings to the garden front, above one hundred feet in length; faced the side of the quadrangular court with Portland stone, and nearly rebuilt the whole of the front near the street. The centre part, at the top of which is a tablet bearing the date (1749) when these improvements were made, only received some trifling alteration, and may be considered as a valuable remnant of the original pile, and a sample of the magnificence of our forefathers. On the top is a lion passant, the crest of the Percys, cast in lead.

Speaking of the building as it at present stands, the dwelling part of



## N O R T H U M B E R L A N D H O U S E .



INTERIOR OF NORTHUMBERLAND HOUSE.—THE GRAND GALLERY.

the noble family is the southern or garden side of the quadrangle. The entrance opens upon a vestibule 52 feet long, and more than 12 feet in breadth, ornamented with Doric columns. Each end communicates with a staircase, that at the left or east end being the state one. This staircase, which was built by the elder Cundy, is extremely handsome, and until the erection of that at Sutherland House was considered the handsomest in London. It is spacious and well proportioned, the steps and decorations in white marble, the balustrades a rich scroll pattern, brass gilt; the pillars around are in marble, the capitals of the Corinthian order, being executed in bronze. (See Engraving.)

The rooms on the basement floor are spacious and handsome, without ostentatious display—just such as an English nobleman would require for the entertainment of his friends, with the substantial hospitalities of the table. On the drawingroom floor a different style prevails; the architecture and fittings of the several rooms being of a highly decorative character. The principal drawingroom is most lavishly ornamented, and presents a unique specimen of the style of decorative interiors of the last century. The walls are in stucco of rich crimson, faced with glass; mirrors and gilt mouldings in fanciful tracery dividing it into compartments of various forms; interspersed are a great number of beautiful medallions from the hand of Angelica Kauffman; and the ceiling is painted after the Italian fashion of Raffaele and his followers, a work restored some years back by Adam, of the Adelphi. The furniture of this splendid apartment is of appropriate richness of character; and the effect of the whole, when lighted up, must be truly magnificent. Beyond this state dining-room is the Tapestry-room, a snug-looking apartment, hung round with tapestry designed by Zuccarelli, and worked in Soho-square, in 1785, at some establishment since abandoned; and this leads to the State Gallery, or ball-room, which is 106 feet long and 27 feet wide, and proportionately high. The ceiling, which is arched, and is supported upon Corinthian pillars with a rich cornice, all highly gilt, is decorated in compartments with paintings after the Roman school. (See the Engraving.)

Having now to speak of the works of art and *verts* in Northumberland House, we beg to be allowed to commence with those in the State Gallery, which are of peculiar interest. The paintings, which extend the whole height and length of the walls, are copies, and admirable ones too, after some of the finest works of Raffaele, Guido, and Annibale Caracci; the principal one on the side facing the windows being after the famous

"School of Athens," of Raffaele, by Mengs; on either side of this are the "Presentation of Cupid and Psyche," and the "Marriage Feast of Cupid and Psyche," after the same great master, by Pompeo Battoni. At the two ends of the gallery are copies of A. Caracci's "Bacchus and Ariadne," by Constans, and Guido's "Aurora," by Massaccio.

"The School of Athens," by Raffaele, is so interesting a work, and so worthy the consideration of the student, even in the form of a copy, that a few observations about it may be acceptable. The original forms the decoration of one of the walls of one of the rooms in the Vatican, which were painted by Raffaele, at the command of Julius II. The subject is intended to personify the spirit and practices of "Philosophy," as the other three respectively are dedicated to "Theology," "Poetry," and

"Justice." The school of "Philosophy" is that of Athens, the background appropriately being a rich architectural hall or portico, which is supposed to have been after a design by Bramante, a flight of broad steps conducting towards the foreground, and giving opportunity for disposing the groups at different heights. At the top, and in the midst, are Plato, Aristotle, and Socrates; Plato is represented pointing upward, an attitude in accordance with his spiritual doctrines; Aristotle points to the earth, implying that truth must be obtained by investigation and experience; while Socrates is impressively addressing the listeners near him. Lower down we have the Sciences and Arts represented by Pythagoras and Archimedes, Zoroaster and Ptolemy the geographer; and, in the midst, alone, neglected by all, avoiding all, sits Diogenes the Cynic. The last-named figure is admirable for its shortness. Raffaele has introduced a portrait of Bramante, the architect, in the person of Archimedes; one of Ferragino, his master in the art of painting, appending his own as humbly following him. Nothing can surpass the grandeur, variety, and force of character developed in this masterly production, which must ever remain a marvel and a type of excellence in pictorial art. Those who wish to scan the steps by which Raffaele made his way to the completion of this and others of his frescoes, may find fac-similes of his original studies in Ottley's "Italian School of Design," a copy of which is in the British Museum.

The most important original picture in the Duke of Northumberland's collection is the portrait group of the "Cornaro Family," by Titian, which was bought by Algernon, Earl of Northumberland, in the reign of Charles I., from Van Dyke, for one thousand guineas. It is perhaps the most interesting of the portrait works of this great master in England—rich in colour and breathing with intellectuality. There is another picture by the same master, comprising portraits of "Cardinal Sforza and Machiavelli." In the little dining parlour is a "St. Sebastian," described as by Domenichino, but which Waagen speaks of as by Guercino, and we rather incline to his opinion. The principal figure in study and colouring is of the bold marked character which we note in the works of the last-named artist; the chief occurs in the left-hand corner, through which Diocletian's ruthless band of archers are seen retiring, is also a marked sample of the *tenebrosi* school of which Guercino was an influential supporter. The sky in the right, with the angels descending with crowns and palm-leaves, is of a softness and richness of tone which might have come from the hand of Domenichino.



SUFFOLK HOUSE ABOUT 1650, FROM A DRAWING BY HOLLAR, IN THE PNEUMATIC LIBRARY, CAMBRIDGE.



In common with many other Londoners, I saw a few days ago the President of the French Republic, as such, for the first time. It struck me that Louis Napoleon has aged greatly since his departure from London. He certainly looks a great deal older than any of his portrait—older, more haggard, and more care-worn. His features have set, and become more deeply and coarsely marked; the eyes have sunk; and no doubt many anxious and sleepless hours have drawn deep rigid furrows around them. Indeed, there probably never was a position more beset than his, and he tells, and worries than that which is now occupied by the chief of the Third French Republic. His face and thoughtful look of his face is very characteristic. It has a gloomy, brooding air, betokening the habit of continuous inward thought and speculation. I think that the destiny of the President is hid by the best informed people in Paris to be trembling in the balance. No one can guess how matters will go on the second Sunday of May. "The great probability," said a *rustic* old French politician to me, "is that everything will depend upon the tone and temper of the people for a week or two before the election. The waving of a feather, the turning of a straw, may then, when the feelings which may be stirred are on the full stretch, give rise to a fast-spreading whirlwind which may hurl Louis Napoleon headlong from power, or bear him on to a new and a splendid sea of office, from which only another revolution will destroy him."









LAUNCH OF THE "GLASGOW" SCREW STEAM-SHIP, AT THE MOUTH OF THE KELVIN, ON SATURDAY LAST.

the *Rajasthan*, well known as a passenger-ship between London and Bombay. Her main deck is 255 feet in length and 36 in breadth; she can accommodate 100 passengers—upwards of 60 of these in the cabin, and, under a pressure, fit up for more. She is constructed to carry from 500 to 600 tons of coal, and a cargo of about 1500 tons. The height between the main deck and the spar deck is 7 feet 6 inches, and she is to be fitted up in a style of the first elegance, while nothing is to be neglected which may add to the comfort and convenience of passengers.

This large and superb steam-ship is, we believe, owned chiefly in Glasgow, and is to be under the management of Mr. M. Langlands in that city, and Mr. M. Symon in New York. She is to make her maiden trip across the Atlantic on the 10th of next month.

#### "THE QUEEN OF A DAY," AT THE HAYMARKET THEATRE.

Mr. EDWARD FITZWILLIAM'S new comic opera, "The Queen of a Day," has quite established itself in public favour. Our Artists have supplied no illustration of one of the most amusing incidents in the recent act; it is, after the *Queen of a Day* (Miss Louisa Pyne) has made herself known as *Lucy Lovelace*, the milliner, to her lover *Walter* (Harrison); and *Sir Henry Vere* (Mr. Stuart) and *Timothy Turnwell* (Weiss), the innkeeper, are astounded at the *Queen's* familiarity with a sailor.



SCENE FROM THE NEW COMIC OPERA OF "THE QUEEN OF A DAY," AT THE HAYMARKET THEATRE.

#### TESTIMONIAL TO SIR ALEXANDER BANNERMAN.

A VERY handsome silver table service has just been completed by Messrs. Smith, Nicholson, and Co., Duke-street, Lincoln's-inn-fields, for presentation to Sir A. Bannerman, by the inhabitants of Aberdeen. The Candelabrum here engraved is the centre-piece of the service, and bears the following inscription:—

Presented to  
His Excellency Sir ALEXANDER BANNERMAN, KNT.,  
Lieutenant Governor of Prince Edward's Island,  
By his Friends and Constituents in Aberdeen.

In testimony of their sense of the great and effective services he had rendered on many occasions to their city during the fifteen years he represented them in Parliament, and the great regard and affection they entertain for his personal worth and character.—1851.

Sir Alexander Bannerman has lately been appointed to the governorship of Prince Edward's Island; and in the *Charlottetown Advertiser* we find the following evidence of the great satisfaction which the appointment has given to the Islanders:—"We regret (says the *Advertiser*) that the lateness of the hour renders it impossible to give in to-day's paper the details of the journey of the Lieutenant-Governor to the west, or a lengthened description of the reception which awaited his Excellency and lady; the tale will speak for itself when published, and the addresses will give evidence of the enthusiastic gratitude felt

by the whole western population for what the people call the 'boon of civil liberty,' which her Majesty has bestowed on this part of her colonial empire. We are aware that party writers always incur the risk of over-stating the success of the views of which they are the advocates, but we defy language to detract from, or enthusiasm to exaggerate, the scene of universal and heartfelt joy and congratulation which awaited his



CANDELABRUM OF A SILVER TABLE SERVICE PRESENTED TO SIR A. BANNERMAN.

Excellency wherever he went: we have said universal, because the few lingering malcontents, who would yet presume to strive against the will of a whole people and their gracious Queen, have, as to some, been already converted to more patriotic sentiments; whilst others, from very shame, have on this occasion joined the ranks of those who have given so generous and confiding a reception to Sir Alexander Bannerman and his lady, not only as the organ of the Queen's gracious intentions, but as one determined and capable of carrying them out with justice and impartiality. Never in this island was such a scene of loyalty exhibited as awaited the progress of the party on their westward tour.



## A FEW DAYS IN THE LAKE DISTRICT.



CONISTON WATER, FROM WATERHEAD.

(Continued from page 217.)

On by rail to Lillafield, or two miles further to Lea Scale station, where there is an excellent hotel and vehicle for hire, by which the tourist may proceed to Calder Abbey, situated in the Vale of and close to the river Calder; the site, like all the monastic buildings of the period, has been well chosen: fertile holms, sheltered by wooded hills, a trout-stream and other adjuncts to the refectory, form one of the many bygone charms linked with the Black Monks of Calder. The ruins are highly interesting surrounded by noble trees, the foremost of which is the linden, trailing its branches on the mossy lawn; the rapid river, the quiet village, and the wooded banks contrasting well with the sombre ruins. . . . Return to rail, and proceed to Broughton, passing the little esport of Ravensglass, and obtaining occasional glimpses into Westdale, Miterdale, and Eskdale, with the ranges of Scaw Fell and Corney Fell; then skirting the base of Black Coomb, the tourist finds himself on the shore of the Duddon Estuary, and there the view scarcely may be surpassed: across the Duddon are the Furness Fells, and the extensive slate quarries of Kirby; on the left is the rich seignory of Millow, its old baronial castle and relic of feudalism in the gallows-stone, inscribed—

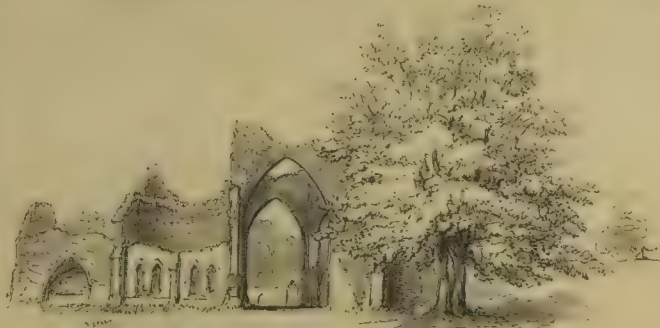
Here the Lords of Millow exercised jura regalia.

The Black Coomb range forms a background to Millow; and, as the train proceeds, a lovely vista—the “sweet Vale of Ulpha,” watered by the “cerulean Duddon”—opens to view; while, in front, Conistoun Old Man, Walney Scar, and other noble mountains, form one of the finest views in the Lake District.

Cross the Duddon, by an immensely long viaduct, and enter Lancashire, and, shortly, the neat little village of Broughton, in Furness. Broughton contains nothing of importance except “the Tower” (the

seat of — Lawrey, Esq.), situated on a lofty and wooded eminence adjoining the village, from the roof of which is a most extensive view of the Duddon Estuary, Walney Island, &c.

Leave Broughton for Conistoun by coach, the road alternately ascending and descending over finely undulating ground, and commanding views into the vale on the right, and the hills around Conistoun waterfoot. Pass through Tower Kirkhouse: in this neighbourhood topiary gardening (viz. trimming shrubs and trees into fantastic forms) still prevails; one garden by the roadside displays a ship with sails, a house, obelisks, urns, &c. On entering the village of Conistoun, the scene suddenly changes from comparatively sylvan, to wild grandeur; on the left towers the immense summit of the “Old Man,” backed by Longscar and Wetherham; in front are the deep passes of Yewdale and Tilberthwaite, and to the right the Lake and wooded hills beyond. After passing the village the new Waterhead Inn attracts the eye, both from its excellent site, extent, and noble appearance; it is in the Elizabethan style, and built with the slate rock of the district. Near the head of the Lake, on the west, is the fine “Old Hall” of the De Flemings, with its tall round chimneys looking down on the venerable structure. On the opposite shore stands Tent Lodge, once the residence of the celebrated Miss Smith, and recently of Tennyson. At the head of the lake—embayed by lofty hills, terraced heights, sweeping lawns, and noble trees—stands Waterhead House (J. G. Marshall, Esq.). Leaving the Vale of Conistoun, the coach ascends a considerable eminence, from which the view is exceedingly grand. Arrive at Hawkshead, an ancient market town, near the head of Esthwaite water, containing some curious



CALDER ABBEY.



BASSENTHWAITE WATER (SKIDDAW BEYOND), FROM WYTHOP WOODS.



[illegible]



COUNTRY NEWS.

NAVAL AND MILITARY INTELLIGENCE.

THE MARKETS.

**IRON INTELLIGENCE.**—From the *Middlesex Gazette* we learn, that in some places a considerable number of the workmen in the iron-works of the county, owing to the general strike, have been dismissed. The best of the workmen, who did not participate in the strike, have shown a very considerable improvement, and will certainly produce much more work than they have done in the past. The workmen in the iron-works of the county, who did not participate in the strike, have shown a very considerable improvement, and will certainly produce much more work than they have done in the past. The workmen in the iron-works of the county, who did not participate in the strike, have shown a very considerable improvement, and will certainly produce much more work than they have done in the past.

**COLLISION ON THE LONDON AND NORTH-WESTERN RAILWAY.**—On Sunday morning a collision took place between a passenger train and a goods train on the London and North-Western Railway. The passenger train, which was travelling from London to Liverpool, was derailed by the collision. The goods train, which was travelling from Liverpool to London, was also derailed. The collision took place at a junction near the town of Wigan. The passenger train was travelling at a speed of 40 miles per hour, and the goods train was travelling at a speed of 20 miles per hour. The collision resulted in the death of one person and the injury of several others.

**RAILWAY TRAIN ON FIRE.**—At an early hour on Tuesday morning, a goods train on the East Lancashire Railway, whilst on its way to Blackburn, was discovered to be on fire. The train was stopped, and the fire was extinguished. The cause of the fire was not ascertained. The train was carrying a large quantity of goods, and the fire caused a considerable loss. The railway company has offered a reward of £100 for information as to the cause of the fire.

**HIGHWAY ROBBERY AND ATTEMPTED MURDER.**—A very daring case of highway robbery and attempted murder engaged the attention of the magistrates of the County of Middlesex. The case was heard at the County Court, and the defendant, a man named Williams, was found guilty. Williams was charged with the robbery of a man named Godwin, and with the attempted murder of Godwin. Williams was caught on the highway near the town of Uxbridge. The case was heard at the County Court, and the defendant, a man named Williams, was found guilty. Williams was charged with the robbery of a man named Godwin, and with the attempted murder of Godwin. Williams was caught on the highway near the town of Uxbridge.

**DISTRICT COPIES OF THE EXPLOSION AT NEWCASTLE.**—On Monday night one of those disastrous explosions which are of such frequent occurrence in the coal-mining districts, took place at Washington Colliery, which is about two miles from the Washington station on the York, Newcastle, and Eborac Railway, and we regret to say that it has resulted in the premature death of from thirty to forty men. The explosion took place at about half-past eleven o'clock, and everything seemed to go on regularly until about half-past eleven o'clock, when the explosion took place. The explosion was caused by a fault in the machinery of the mine. The explosion resulted in the death of from thirty to forty men. The explosion was caused by a fault in the machinery of the mine.

**FATAL COLLIERY ACCIDENT.**—On Monday morning, in the Potteries, an explosion took place at the Potteries Colliery, belonging to John Edwards. The explosion was caused by a fault in the machinery of the mine. The explosion resulted in the death of from thirty to forty men. The explosion was caused by a fault in the machinery of the mine. The explosion resulted in the death of from thirty to forty men. The explosion was caused by a fault in the machinery of the mine.

**MR. W. R. GARY, a gentleman, lost his life last night at Hastings on Sunday morning, when he was struck by a train. The train was travelling from London to Hastings, and the accident took place at a junction near the town of Hastings. The train was carrying a large quantity of goods, and the accident resulted in the death of Mr. Gary. The railway company has offered a reward of £100 for information as to the cause of the accident.**

**ADULTERATION OF GREEN TEA.**—From investigations published in the *Lancet* respecting the adulteration of black tea, the conclusion is arrived at, that the great bulk of black tea which is sold in the market is a pure article, and that the adulteration is confined to a small portion of the supply. The adulteration is caused by the addition of a small quantity of green tea to the black tea. The adulteration is caused by the addition of a small quantity of green tea to the black tea.

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**INSANITY IN THE ARMY.**—Out of the number of men discharged from the service, and sent to the asylums, 8 were labouring under insanity. The insanity was caused by the stress of military life. The insanity was caused by the stress of military life.

**HIGHLAND REGIMENTS.**—An order has been issued for the 5th Highland Regiment, viz. the 42nd, 78th, 79th, 92nd, and 94th Highlanders, to wear in future as a foraging cap the Gogarney bonnet, instead of the one hitherto in use. The bonnet is a simple cap, and is made of a material which is easily obtained in the Highlands.

**MILITARY FORTUNE.**—The property of the late General Sir Wilfrid Douglas Gordon, Quartermaster-General to the forces, has been attested under the sum of £170,000. The property was left to his family, and will be distributed among his children.

**EAST INDIA PENSIONERS.**—The Court of Directors have refused to adopt a proposition for granting an increase of pension to the pensioners of the East India Company. The pensioners are entitled to a pension of 10s. per week, and the Court of Directors have refused to increase this pension.

**THE GOLD COIN COURTS.**—The selection has been made of the officers of the Gold Coin Courts, which are to be held in London. The officers are to be selected from among the members of the Gold Coin Courts, and will be responsible for the conduct of the courts.

**VISITORS TO WOOLWICH DOCKYARD.**—The following is a return of the number of foreigners who visited Woolwich Dockyard in the week ending August 16th:—French, 357; Prussians, 109; Belgians, 100; Netherlands, 22; Danes, 10; Austrians, 22; Saxons, 22; Russians, 10; Swiss, 14; Westphalians, 10; Germans, 23; Sardinians, 10; and Americans, 6. The total number of visitors was 611.

**HUNGERFORD HALL, STRAND.**—The fish portion of Hungerford Market has undergone a metamorphosis. Having proved a failure, some capitalists (M. Buxquet, of Paris, and others, French and English) conceived the idea of altering its design and converting it into a theatre. The theatre is now open, and is a very fine building. The theatre is now open, and is a very fine building.

**THE NEW AMERICAN FLYING SHIP.**—The immense aerial ship, *United States*, is now on the stocks at Hoboken, and nearly ready for launching into the sea. The ship is 64 feet in length, very sharp at either end, width 6 feet, height 4 feet 4 inches; the whole composed of a strong light wooden frame, covered with canvas, and with a large number of sails. The ship is a very fine building, and is a very fine building.

**MONETARY TRENDS OF THE WEEK.**—Without any assigned cause, the English Funds were again flat on Monday, opening at Saturday's closing prices of 96½ for Money, afterwards receding and closing at 96¼ for Money, and 96½ for Consols. The market was very quiet, and the prices were very low. The market was very quiet, and the prices were very low.

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**CORN-EXCHANGE (Friday).**—A fair average supply of English wheat has been received up to our market this week, and the price of the wheat is 17s. 6d. per bushel. The price of the wheat is 17s. 6d. per bushel. The price of the wheat is 17s. 6d. per bushel.

**WHEAT.**—Wheat, Essex and Kent, red, 17s. 6d.; white, 17s. 6d.; Norfolk and Suffolk, red, 17s. 6d.; white, 17s. 6d.; 17s. 6d. per bushel. The price of the wheat is 17s. 6d. per bushel. The price of the wheat is 17s. 6d. per bushel.

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# EXHIBITION SUPPLEMENTAL TO THE ILLUSTRATED LONDON NEWS

No. 512.—VOL. XIX.]

SATURDAY, AUGUST 23, 1851.

TWO NUMBERS, 1S.  
WITH LARGE SHEET, GRATIS.

## THE GREAT EXHIBITION.

### SCULPTURE.

Upon making a general survey of the works of Sculpture of all Nations in the Great Exhibition, and revising the memoranda we have jotted down from time to time in regard to them, we find that we have yet much to notice in this interesting department, which we shall endeavour to do justice to without further delay, lest, as the season is drawing to a close, we should not have another opportunity.

We shall begin with Power's Greek Slave, which has been thrust forward in such a prominent position, and upon which king mob has lavished so much wild and unmeaning encomium. We took leave to aver, in a few lines published on the 5th inst. that we did not join in the admiration bestowed upon this work, briefly suggesting the grounds of our disapproval. As we are aware that in so doing we run counter to the opinions of the majority of the critics of the day, we may be permitted to add a few more observations, to explain, perhaps to justify, our position. First, the figure is ill studied: of course, the proportions of beauty are, to a great extent, matter of taste or opinion; but, without laying claim to infallibility in these matters, we aver that the figure of the Greek Slave, as it is wide from the ideal beauty of the antique, would, upon an average of suffrages, fall to establish its claims with the present generation of beholders. It is a lengthy, lanky figure below; square and high-shouldered in the upper part: the flesh has none of the plumpness and softness, the attainment of which is the triumph of the sculptor's art; the arms, particularly the left one, unduly spare. Secondly, the attitude is constrained and inelegant. The figure is made to lean with the right hand against a post, just a very little too low to allow her to remain in an upright position: the consequence is, that there is a departure from the ordinary repose of nature, without a sufficient object, and an awkward outline on both sides of the figure, but particularly on the left. It must not escape remark, neither, that, in carrying out this ill-judged conceit of attitudinizing, the artist, whilst he has shown its effects very prominently in the lower parts of the back, has overlooked it entirely in the right arm and shoulder. The attitude is constrained and inelegant, because it wants naturalness—because it wants unity of purpose: the arms drawn one way, the head turned abruptly to the other; so that there is no seeing the full face but with a side view of the figure, and that side, as a point of view, subject to many objections, and vice versa. For the head itself, we cannot consider it by any means beautiful; to us it is certainly not pleas-

ing: it is too square; the forehead too prominent for female beauty; the eyes too much sunk for any expression—and, of all shades of expression that of softness, which is the attribute of womankind (in marble); and the profile, as it is the first view generally taken of this head, is unfortunately its least agreeable aspect: the nose sharply pointing outwards and upwards, instead of pursuing the direct line from

the forehead, so as to preserve the oval form; the chin prominent and lengthy from the starting-point at the neck; and, to make the matter worse, and to complete the extravagance of the outline, the hair drawn up in a stiff hard knot, when a few loose loops falling half way down the neck would have done much to relieve the harshness of the general expression. The artist has bestowed much pains upon the

little Greek cap, which, with her other raiment, the unhappy slave has very neatly displayed upon the post against which she leans; but we think she would be puzzled to wear such a head-gear with her present mode of con-

figure. And now a few words about the incident supposed to be characterised in this production. Not to run the risk of doing injustice, we will copy the official description affixed to the statue:—"The figure is that of a young and beautiful Greek girl, deprived of her clothes, and exposed for sale to some wealthy Eastern barbarian, before whom she is supposed to stand with an expression of scornful dejection, mingled with shame and disgust." A very interesting case, truly, but one the knowledge of which deprives the work of that legitimate charm "which attaches to the nude figures of ancient art, wherein an obvious innocent unconsciousness of dishabille prevents all compunction on the score of propriety." The official account is particular to inform us of the accurate identity of the Greek costume, and the little cross; but adds, "the chains on the wrists are not historical, but have been added as necessary accessories." Necessary to go beyond the truth to realise the whole of a very painful conception, which, we submit, in its most offensive incident—that of the denudation itself—is "not historical."

To conclude, the Greek Slave is a poor refacimento, with alteration, but without improvement, of the "Venus di Medici," with a story attached to give it a relish. It is a bad beginning for American art, on all accounts; which must produce something more genuine, if it intends to take rank with the schools, bygone and to come, of Europe.

Proceeding now to the British Sculpture Room, we find a "Nymph Startled," in marble, by Behnes, which exhibits none of the masterly comeliness and other objectionable characteristics of the work we have just noticed at such length. The figure is cast in a good wholesome mould: the attitude graceful and animated, without affectation; the flesh soft and smooth; and the general finish of the work in every respect satisfactory. We must also admire, for the purity of its treatment, a whole-length marble figure, lightly draped, after the antique fashion, by T. Campbell, entitled "Portrait of a Lady as a Muse." These two are by far the best things of the kind in



GROUP OF SILVER FROM RUSSIA.—(SEE PAGE 252.)



the room. Sharp's "Boy and Lazar" is a pretty conceit prettily carried out. The sitting statue of Flaminia, by the late M. J. Marshall, is a fine specimen of portrait sculpture, replete with dignified ease and high intelligence.

And while upon the productions of British art, there are several, which, though located in the Italian department, we may properly claim, being the work of English hands. Of these, the two Nymphs, by the late lamented Richard Wyatt, justly claim pre-eminence, not only here, but perhaps above all other works of the same class in the Exhibition. It may be proper to observe, that these works have been added since our first notice on British sculpture, on the opening of the Exhibition, was written, or should then have claimed them with avidity for the honour of our country. There is a bench convenient to the spots, so that we may sit down and contemplate these graceful studies at leisure. Remark in both the symmetrical proportions, the exquisite softness of the flesh surfaces, the winning simplicity of the attitudes, upon the smiling beauty of the faces, more particularly as regards the full round speaking eye of the smaller one; the classic proportions of the heads, set off and adorned with tresses light, wavy, and picturesque in form and disposition;—examine the careful finish of the whole, and you cannot hesitate to set these down as works evidencing the highest genius, and the nearest approach to artistic perfection. Close beside these has lately been introduced a figure entitled "Highland Mary" (see July), by M. E. Spence, a work not without merit, but tame and without speech, as compared with her two lovely neighbours. This figure is fully, indeed, somewhat heavily, draped, a great plaid shawl hanging down her back, and nearly touching the ground.

Pursuing our way into the Roman department, we find many efforts, in various styles and of various degrees of merit. An "Aconia Status," by M. Lawrence Macdonald, is a heavy, cold, unattractive study, upon which more labour has been bestowed than the subject was worth. A "Ceres," by John Gott, is of the commonplace order of prettiness. "Love Triumphant," by Angelo Bionaldi, is a foolish conceit, consisting of a Cupid on a lion's back. Bionaldi's group of "Psyche trying to keep Cupid from carrying the gift of beauty to Venus," is a cold and artificial affair, consisting of two figures having been introduced on the heads. Bionaldi has a large theatrical-looking group of "Hercules and Anteus," in which the female figure, arrayed in Turkish costume, is finished with considerable roundness and softness, whilst the knight is stiff as buckram, in coat of mail; the buckler, leggings, and helmet being brought to a degree of polish which speaks highly of labour misapplied. Cardwell's group of two little boys with a bird's nest, busy feeding their feathered captives, is one of many puerile productions, both in the Roman and Tuscan departments, which are attributable, perhaps, more justly to a low standard on the part of the patrons of art than to art itself. In the front of the Tuscan chamber has recently been added a very vigorous and characteristic bust of "Lorenzo the Magnificent," by Costole, of Florence. Sad falling off in matters of art since his day!

Of the art of many-climbed Austria we have spoken at some length in a former Number; the bold and startling productions from the Zollverein (Kiss's "Amazon," the "Bavarian Lion," &c., to wit) we have also sufficiently illustrated from time to time. We may remark generally of the Zollverein states, with Russia at their head, that in art they exhibit the crudeness almost inseparable from new efforts, when there are no old examples, no traditional principles to guide the hand. The subjects chosen are too often of a banal order, unworthy of high art, and are sometimes treated with an extravagance intolerable to an educated taste. It may be sufficient to point to one very glaring example of both these errors. Fortunately, it is not a very prominent one in the present Exhibition; though, in Berlin, where the original of the work exists in marble, it is vastly popular—indeed, has received the highest honours. In an obscure passage in the rear of the Zollverein department, will be found by those who are curious to search for it, a cast of a Bacchante on a Panther, after the original in marble, by T. Kalide, "sculptor and professor of art." Nothing can be conceived in worse taste, or executed in more bold defiance of the properties. The Bacchante, a coarse, heavy figure, is dead—that is, is intoxicated, and lies sprawling on her back on the top of the panther, who looks up the dregs of liquor she has left in her cup. The artist seems to have taxed his ingenuity to make the most of the most offensive features of such a subject, and we think he has succeeded.

Moving into the French department, we find, at the entrance of the Gobelins Room, a somewhat similar subject, though certainly not so flagrant as carried out, by Giesinger. Here the Bacchante, having evidently indulged too freely in her favourite juice, is lying asleep in an attitude of wild *insouciance*, not upon the back of a panther, but upon a bed of vine leaves and grapes. The treatment is less delicate than that of M. Kalide's figure, and the execution mastery in many respects; but still it is of a sensuous character, which neither derives interest from the medium through which it is presented, nor adds dignity to the art employed upon it.

Still in France, we are struck with some very wonderful melo-dramatic scenes in plaster, by Lechesne, which attract a crowd of gazers in the middle of the nave. In the centre we have a woman fast asleep under some straggling branches of trees, whilst an eagle, with tremendous breadth of wing, is pouncing upon her naked infant, who bubbles piteously, but hopelessly. On either side are two complications of canine idleness and sagacity. In the one we see a tremendous snake about to dart upon a little urchin, who, terrified, crouches behind a large dog of doubtful breed; in the other group we see that the young gentleman's confidence has not been misplaced, for there lies the venomous reptile, with his head bitten clean off, whilst the little boy overwheals him deliver with his caresses.

M. Etex has several works which exhibit talent and originality of conception in various lines: his two large plaster groups in the Nave—one representing a family bereaved by the cholera, the other the family of Cain after the murder of Abel—are certainly vigorous efforts, albeit somewhat chargeable with extravagance. His "Hero and Leander" is good in execution, though his figures, particularly the female, are of a heavy mould. Several minor works by the same hand, including some bas-reliefs, have considerable merit.

On the left hand, on entering the Gobelins Room, is a group, by A. de Day, of Eve with her two children, Cain and Abel, in her lap, whom she hugs to her bosom, clasping her hands round her knee, whilst she seems to indulge in a reverie as to their future fate. There is something very picturesque and striking in the conception, which is ably carried out. At the base are slightly sketched bas-reliefs of the temptation by the serpent, the sacrifices of Cain and Abel, and the first murder, which explain and give character to the work.

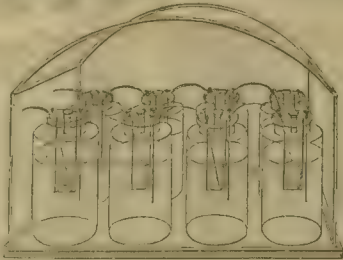
The "Cephalus and Procris" of M. Kamus is a group of some merit, and with considerable expressiveness.

In general, the works of the French school, unequal in individual merit, are interesting, and mark the existence of an educated school, though one in which the classic rules have frequently been forgotten. Amongst the few works in which classic treatment has been aimed at, we must mention with commendation Lemaire's *Psyche*, with the butterfly in marble, extremely graceful; and Pradier's bronze group of *Venus*, half kneeling, and whispering Cupid, and the same artist's *Thryne*, which stands in front of the entrance of the Gobelins Room.

#### THE EXHIBITION VOLTAIC BATTERY.

In former Numbers we have described and figured Shepherd's clock; but on the present occasion we must give a short notice of the novel form of voltaic battery which is employed in the clock's power, and which our readers may observe in the gallery of the "North" department. This form was devised by Mr. Alfred Smee for this clock, and contains numerous adaptations of scientific principles. The negative plate consists of a strip of platinumised silver, the platinum being used in the finely divided state, in which Mr. Smee first discovered that most metals had the singular power of containing the evolution of the hydrogen; and the visitor may observe a constant and indefinitely fine bubbles of gas continually rising to the surface of the fluid. The positive pole consists of pieces of the thinnest rolled zinc immersed in mercury. The reason for using this zinc is, that, in the process of manufacture the purest zinc is used for that purpose, whilst the baser portion is used for the thicker plates. The use of the mercury is to prevent local action by the adherence of the zinc to the surface of the silver plate. If it were placed at the bottom of the solution, during the action the battery it would become incrustated with crystals of sulphate of zinc, which would effectually prevent any further action. By suspending it, however, at the upper part of the solution, the salt falls eventually to the lower part of the solution, and becomes uniformly diffused through the whole fluid. A platinum wire, which is connected to a binding screw to form connexion. The battery is charged with dilute sulphuric acid, in the proportion of one to eight, and the size of the outer vessel must depend upon the time which the battery is required to keep in action, and the amount of the work which it is called upon to perform. In obtaining

force for an arrangement of this character, nothing can exceed the economy of material, for almost every particle of zinc dissolved contributes its effective power, and thus the cost solely depends upon the value of the zinc. There can be no question that there is nothing to be compared to this form of battery for clock purposes, and probably it will be found the best battery for telegraphic communications. Whether it can be as successfully employed for electro-metallic operations and other cases of heavy work as the ordinary form of Smee's battery, we are unable to

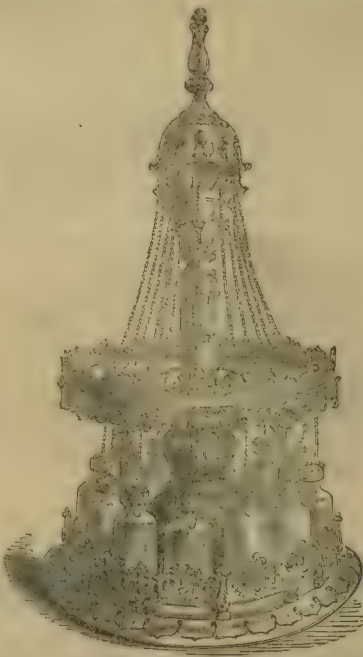


THE EXHIBITION VOLTAIC BATTERY.

tell, but recommend its trial to those who are interested in this matter. The great clock, notwithstanding the large surface exposed to the wind, and the recent high gales, has continued to mark the time in a satisfactory manner. We regret, however, to record that some mischievous or malicious person has cut the wires, on one or two occasions, which communicated the power to the dial in the Western Nave, and the same clock, having received some injury, has not performed as well as its more noble companion.

#### THE TEMPEST PROGNOSTICATOR. BY DR. MERRYWEATHER.

This is an ingenious contrivance for the protection of life and property, by giving warning of approaching tempests. It is described by



THE TEMPEST PROGNOSTICATOR. BY DR. MERRYWEATHER.

The inventor as "an atmospheric electro-magnetic telegraph, conducted by animal instinct." It will repay inspection by those interested in scientific researches.

#### A LADY'S GLANCE AT THE GREAT EXHIBITION.

NO. III.

WHILST each of the many examples of the works of nature, of science, and of art comprised in the various classes into which the Exhibition of the Industry of all Nations is divided, attracts its own peculiar circle of votaries, there is one which is found to claim successfully the admiration of every description of visitor, although addressed for the most part to the tastes and predilections of the female sex. I allude to the magnificent specimens of jewellery and precious stones with which the Crystal Palace abounds; to an extent, indeed, that half enables us to realise in our minds the wildest wonders of an Arabian tale; to believe that the hall of Vathek might not have been wholly imaginary; and that Sinbad's adventures may find a local habitation after all. Whatever grave objects may attract grave people to this temple of concord, there are few even of the gravest who will depart from it altogether without paying a prolonged visit to the departments of Class 23. The most learned of savans, the coldest of utilitarians, the political economist, the bishop and the Quaker, may there be found side by side patiently awaiting their turn for a passing glimpse at its marvels; half ashamed of an admiration they are unable to conceal or to disguise. There doth the philosopher arrest his steps to analyse the component parts of those wonderful substances, and endeavour to calculate the succession of ages that must have been demanded for their development. There, too, stands the sturdy labourer, with his wondering wife by his side, gazing at them with looks of undisguised astonishment, and anticipating in imagination the advantages which even a passing acquaintance with such marvels will give him over the less fortunate companions of his toil at home; whilst the *millionnaire* on his left is vainly endeavouring to compute the money value of the objects before him, and lamenting that so vast an amount of capital should be so unproductively employed.

Leaving them to their several reflections, let me see if I cannot improve so fruitful an opportunity, and jot down a few memoranda which may assist in recalling to the mind this fairy fabric and the most interesting portion of contents when they shall have passed away and be no more seen. Towards the accomplishment of this object, a few anecdotal illustrations of the history of the gems and precious stones of the Great Exhibition may not prove unacceptable.

There are few things in the history of commerce more remarkable than the enormous mercantile value which has attached, by common consent, in all ages, and in all civilised countries, to the diamond, if at all remarkable for its size and brilliancy. The measure by which the price of

the diamond is usually regulated is called a carat, of which 160 are required to make the ounce. The carat is divided and subdivided into half-carats, quarters, or grains; eighths, sixteenths, and thirty-seconds. So soon as the diamonds are manufactured, or, to employ a technical term, *made*, they are handed over from the lapidary to the jeweller to arrange, display, and set, so as to produce the best possible effect, whether destined to form a necklace, ear-drop, ring, brooch, or pin. The setting should be obtruded as little as possible on the eye; for it is by concealing everything but the effect of his labour, that the jeweller displays the gem on which his taste and ingenuity have been expended to the best advantage. It often happens that so much pains are bestowed upon the setting of a gem, that a diamond carat in weight may be made to appear as large as a well-proportioned stone of six grains. A diamond, properly set, therefore, is equal in value to one unset of the same quality of twice its weight. As the technical terms employed in the description of the brilliants which are exhibited in the Crystal Palace are not generally understood, a few preliminary words by way of explanation may not be considered out of place. The bezels are the upper sides and corners of the brilliant, lying between the edge of the table and the girdle. The collet is the small horizontal plane or face at the bottom of the brilliant. The crown is the upper-work of the rose, which all centres in the point at the top, and is bounded by the horizontal ribs. The facets are small triangular faces or planes, both in brilliants and rose diamonds. The girdle is the line which encompasses the stones parallel to the horizon. Lozenges are alike common to brilliants and roses. In brilliants, they are formed by the meeting of the facets on the bezel; in rose diamonds, by the meeting of the facets on the horizontal ribs of the crown. Pavillions are the under sides and corners of the brilliants, and lie between the girdle and the collet. The ribs are the lines or ridges which distinguish the several parts of the work, both of brilliants and rose diamonds. The table is the large horizontal plane or face at the top of the brilliant. Diamonds are brilliant cut, rose cut, table cut, and *lapides*. The brilliant is, of course, the form that is most highly esteemed, because it exhibits to the best advantage the peculiar lustre of the gem; but if it ensures the best possible effect, it also entails a much larger waste of the stone. The brilliant is formed of two truncated pyramids united by a common base, the upper pyramid being much more deeply truncated than the lower. The rose diamond is the shape given to those stones, the spread of which is too great, in proportion to their depth, to admit of their being brilliant cut. It is formed by covering the rounded surface of the stone with equilateral triangles, placed base to base, making the figure of a rhomb. The table diamond, inferior still to the rose, is made of those stones, which, with a considerable breadth, are of very trifling depth. It is produced by a series of diminishing four-sided planes below the girdle; and the bezel is formed by one, two, or three of these planes. *Laques* are formed from flat or veiny diamonds, and are only manufactured in India. Diamonds from one to four carats, lose little less than half their weight in the process of cutting; so that the manufactured diamond is found to contain a flaw, or what is technically called "of colour," its value is proportionately diminished, sometimes one-third, or even one-half. If it be breathed upon until its lustre is temporarily destroyed, its imperfections may be easily discovered. On referring to a series of tables for estimating the value of the diamond, which have been framed by Mr. David Jeffrey, long a recognised authority on such questions, I find that the brilliant is valued according to its weight, in the following ratio: a brilliant of the weight of one carat, £80; of ten, £800; of twenty, £2400; of thirty, £4800; of forty, £12,800; of fifty, £20,000; and of one hundred, £30,000. If the shape be irregular, or the diamond be deformed by the slightest speck or variation of colour, there must be, of course, a corresponding diminution of its value. With this deduction, the principle or rule is, that the proportional increase in the value of diamonds is as the square of their weight. Having indulged in these preliminary explanations, I propose to enumerate those magnificent jewels of which either the originals or the models are at present on view in the Great Exhibition in Hyde Park, seasonally my account as I proceed with such facts and anecdotes as I have been enabled to collect respecting them.

The Koh-i-Noor, or Mountain of Light, has been repeatedly dwelt upon in these columns and in contemporary journals; but, notwithstanding the enormous value at which it has been estimated (from £1,500,000 to £3,000,000), has disappointed public expectation in no ordinary degree. The ungraceful peculiarity of its shape, and the ineffective manner in which it has been cut, although more than half its weight has been wasted in the operation, having deprived it of much of the brilliancy and beauty of which no doubt the original stone would, in skilful hands, have proved susceptible; and, in spite of the various costly expedients which have been resorted to for the purpose of exhibiting it to the best advantage, it is still very far from realising the anticipations which had been formed of its attractions. Its value has been hardly less absurdly exaggerated. Tested by Mr. Jeffrey's elaborate tables, it is worth £260,000; but the awkwardness of its shape and the injury it has sustained in the cutting, will, if duly taken into account, reduce the amount to less than half that sum. This diamond is said to have formed the eyes of the jewelled peacock of the famous mumm or throne of Aurangzeb; with its own eyes, along the crown jewels of Russia, and weighs only 139 carats; so that the price of this gorgeously appraised bird must have been far from pairs. The Koh-i-Noor, however, with every other known diamond, is wholly eclipsed by one of the crown jewels of the Queen of Portugal, which has been estimated at the ridiculous price of £5,644,000, weighs 1680 carats, and is almost as large as a turkey's egg. It has never been entrusted to a lapidary to cut and polish; its possessors considering it most prudent that its character should rest upon its own merits, and that if it is a thing, as Butler assures us, worth only as much as it will bring, where is a customer to be found for such a treasure? The exact weight and dimensions of the Durra-i-Noor, or Sea of Light, exhibited by the East India Company, has not, so far as I am aware, been ascertained. It is set in a ring, and is surrounded by ten smaller brilliants, and is evidently a gem of precious beauty. The largest known yellow diamond of its setting, demands the eye of a professional jeweller, and the whole of its attractions. The celebrated Russian sceptre diamond, which is said to weigh 779 carats, and which has been valued at £4,854,000, is believed to be unrivalled for its extraordinary brilliancy and freedom from imperfection. The Mogul diamond of which we have only a traditional knowledge, derived from the pages of Tavernier—weighs 296 carats, and is of an oval shape, about half the size of a hen's egg. It has been valued at £632,000, but of its present whereabouts I am entirely ignorant. It was discovered on the coast of Golconda, a country identified with the history of diamonds for centuries. The large diamond that formed the eye of an Indian idol, was stolen by a French soldier, and was, after many vicissitudes, purchased by Catherine of Russia for £20,000, and an annuity of £4000 in addition, is now among the crown jewels of Russia. The Pitt diamond, which formed the eye of the Malacca coast, and was valued at £20,000, was purchased by the Duke of Devonshire for £40 carats, and was sold to the Duke of Orleans for £135,000. The expense of cutting it amounted to £2000, and although this process reduced its weight to 136 carats, it is considered, so far as quality is concerned, the finest brilliant in Europe. In 1791 a committee of jewellers fixed its value at £100,000. The Persian diamond, the Mountain of Splendour, valued at £135,600, and the great German diamond, valued at £135,000, are well known by the respective models. The largest known yellow diamond in Europe, weighing 139 carats, belongs to the Emperor of Austria. It was originally the property of the Grand Duke of Tuscany. The Pigott diamond, of only 40 carats, formed the grand prize of an English lottery upwards of forty years ago, and was given by a young man who sold it for a trifle. It afterwards became the property of Robert Ait, the late Duke of Egypt, who purchased it of Messrs. Russell and Bridges, for £20,000; a purchase which considering its remarkable beauty, must have been very much below its value. The large blue diamond ever known is in the collection of Mr. A. J. Hope, and weighs 177 carats. It has a delicate blue tinge, like that of a light-coloured sapphire. It is cut in small facets, in the shape of a medallion; and is surrounded by twenty large brilliants, of the purest water. There is a blue diamond in the collection of her Majesty, formerly the property of George IV., which weighs 44 carats. It appears to have been to the sapphire than to the brilliant. The King of Saxony possesses a green diamond, which forms the button to the plume of his state hat; and there are several large brilliants, some parti-coloured and of green, apert and pink, among the jewels of the late Mr. H. P. Hope, exhibited by Messrs. Hunt and Roskill. The Nassau diamond, taken in the Maltrata



war, weighs 79 carats; but is of triangular form; and, having been polished with a view to retain as much of its original weight as possible, is far less valuable than its size would seem to indicate. The Nizam diamond, brought to this country by Warren Hastings, and presented by him to Queen Charlotte, weighs 101 carats; and is still, we may presume, among the Crown Jewels of England.

Having already referred to the existence of diamonds of almost every form and colour, we must not omit to draw attention to the black diamond (not a coal, though a carbon), exhibited by Mr. Joseph Mayer, which may be regarded as a very great curiosity. It weighs 356 carats, and is so extremely hard that it has resisted every attempt that has been made to polish it. Last, but not the least, we have a diamond, used to cut and polish stones of this description, and exhibited by Messrs. Hunt and Roskell. *Argyrops* of these gentlemen, one of the most interesting departments of the Exhibition is that in which they exhibit specimens of all the various known precious stones in their unmanufactured state, including numerous objects illustrative of the best modes in use of grinding, polishing, and preparing them for their final destination. The models of the various celebrated diamonds exhibited by Mr. Tennant, the mineralogist, Messrs. Thomson, Mr. Aspley Pellat, and others, are also objects of great attraction, and will reward the trouble of a careful inspection.

Although pearls are considered by the lapidary to stand next in commercial importance to diamonds, their relative value as ornaments for the person is regarded by many as far inferior to that of the ruby, the emerald, or the sapphire. However this may be, I propose to accord to them the precedence that is claimed for them. One thing at least is in their favour—they are unresponsive to any improvement by art; we are constrained to leave them as we find them, with all their defects upon their heads. Pearls of the finest quality are those which are perfectly round, and which are thus fitted for necklaces, bracelets, jewels for the hair, and rings. The pear shape is, however, not regarded as an imperfection, because of its susceptibility of being converted into pearls for the hair, solid pearls, and pearls of the shell. Their colour is almost milk white, and not of a dull, lifeless hue. They should be free from stains, specks, or roughness. If dark and misshapen, they become wholly unsuited for ornaments for the person; and if the holes drilled through them, for the purpose of stringing them together, be too wide, their mercantile value is materially impaired. The largest known pearl in the world will be found among the jewels exhibited by Mr. A. J. Hope in the Exhibition of the Industry of all Nations. One thing at least is in its favour—a fact that of a human hand—and the irregularity of its colour, would be of almost priceless value. It is of a size altogether unique, being two inches in length, and four inches and a half in circumference. It weighs 3 ounces, or 115 grains, and wants but colour and symmetry of form to be worthy of a King's ransom. In the absence of these indispensable qualifications, it is merely a *lame nature*, better fitted for the cabinet of a collector than for the court. In other pearls, of a very remarkable character as natural productions, in the same collection, as well as in that exhibited by Messrs. Hunt and Roskell—some black, some in the forms of a fish, and one of a pink colour.

The East India Company include among their jewels two necklaces of extraordinary beauty—one comprising 224 and the other 101 large pearls, of perfect form and colour. These, however, who would satisfy themselves to how much more to their advantage pearls appear when tastefully associated with diamonds, rubies, or emeralds, will do well to examine in detail the exquisite *parures* of this description which are among the jewels of the Queen of Spain (the crown and tiara more especially), Messrs. Hunt and Roskell, Messrs. Garrard, M. Bolin (jeweller to the Emperor of Russia), and Messrs. Froment Maurice. Pearls are valued on the same principle as diamonds, viz. by the size, the weight, the colour, and the condition of the pearls. The value of the pearls, for one small pearl, and the other for large ones. The wholesale value of a carat of pearls, 150 to the ounce, is only 2s.; and of an ounce, £10. The value of a carat weight of larger pearls is 5s.; of 10 carats, £10; of 20 carats, £160; of 50 carats, £1000; of 100 carats, £4000; and so on. Their value, compared with that of diamonds, is as 8 to 43. The highest price given in the trade for any pearl is from 10s. to 100s. per carat, and only on rare occasions, when a whole carat is taken from a pearl, or from a spheric influence. If a lady washes her hands without removing her pearls from her fingers, they will sometimes turn either yellow or black. They demand more care at the hands of their owners than any other description of jewels.

Of Oriental stones, the sapphire first claims attention. In its purest state, its colour is a clear, bright indigo blue (the deeper the better), and is united with a high degree of transparency. It is, however, more commonly of a lighter blue, and cloudy; not unfrequently transparent in one part, and spotted and streaked with a deeper colour in another. It is found in various parts of India, but often in the streams and rivers of Ceylon, and oftenest of all in Pegu, where it occurs in rounded and crystallised fragments, seldom exceeding in size a hazel nut, although occasionally considerably larger. One of the finest, if not the very finest, sapphire in the world is in the collection of Mr. A. J. Hope. It weighs 123 carats, is extremely rich in colour, and without a flaw. Messrs. Hunt and Roskell exhibit, from the collection of the late Mr. H. P. Hope, several magnificent sapphires; among others, a splendid stone of octagonal shape, of 118 grains; another, of the same shape, of 180 grains; a third, of 66 grains; and an opalescent sapphire, of 704 grains, curious but defective. Some of the sapphires, of the same size, and of smaller weight, but of first-rate quality, will enable the amateur of this exquisite gem to make himself perfectly acquainted with its character in all its varieties. Sapphires, of from 20 carats downwards, are often in the market, and may be purchased unset at from £30 to £35. The value of the sapphire depends more upon its brilliancy and colour than on its size. Mr. A. J. Hope exhibits his well-known "sapphire merveilleux," which is blue by day and an amethyst by night. "The asteria, or star stone," is another variety of the sapphire, which exhibits the form of a star with six radii, all of which sparkle with great vividness, as its position is varied in the sun. It is semi-transparent. The finest specimen I have ever seen of this gem is in the Garde Meuble, in Paris. Among the jewels belonging to Mr. H. P. Hope, which are exhibited by Messrs. Hunt and Roskell, are no fewer than six exquisite asters, of first-rate quality: one of them has an iris, displaying all the colours of the rainbow. The Oriental ruby, one of the rarest and most esteemed of precious stones, is believed to differ from the sapphire in colour alone, its hardness, form of crystallisation, and specific gravity being the same. Its colour, when perfect, is a cochineal red. It is, however, often pale, and sometimes shaded with blue. Hence it occurs rose-red, blossom-red, and blue-coloured, which degenerates into the amethyst. "More precious than rubies" is a Scriptural expression, which goes far to establish the fact of its extreme rarity in former days. One of the finest known rubies is exhibited by Mr. A. J. Hope, who has had it re-cut with advantage to its beauty; there is also in his collection a carved Oriental ruby, of *cinqe octo* date, of the head of Jupiter. Rubies of ten carats each are extremely rare and valuable. One of four carats has often been sold for upwards of £200. Rubies, Indian in origin, are much more common, and are always more or less deteriorated. A perfect ruby of six carats weight is equal in value to a diamond of the same size. These stones are, however, seldom met with of a fine quality of a greater weight than a carat and a half. There is a fine intaglio of Minerva in Mr. A. J. Hope's collection, engraved on an Oriental ruby of 53 grains. The spinelle ruby, when perfect, is of a deep red, and of great value. Its colour is chrome, or rose-red. It is said to take its tint from the oxide of chrome, and the Oriental ruby its deeper hue from the oxide of iron. There are no fewer than eleven spinelle rubies, all more or less fine, in the collection exhibited by Messrs. Hunt and Roskell. One of them is of 23 grains weight. The Balais ruby is a stone of inferior quality of the same family. Most of the portraits of Henry VIII. represent him with a magnificent collar of rubies; but they no longer form part of the Crown jewels.

The emerald is next in rarity and value to the ruby. It is of a pure unmixt green, and recalls to the mind the refreshing verdure of spring. It is usually seen to the best advantage when surrounded by brilliants, it varies in colour from the palest to the deepest green, and is so rarely seen perfect that it has given rise to the proverbial comparison, "like an emerald without a flaw." There are several emeralds of extraordinary size and beauty in the Indian department of the Great Exhibition; but they are, for the most part, much obscured and deteriorated by the coarseness and clumsiness of their settings. They form the girdle of a Sikh chief. The emerald belonging to the Duke of Devonshire, exhibited in the case of Mr. Tennant, of the Strand, is one of the finest in the country. Mr. A. J. Hope exhibits an emerald in its stone matrix—a very great curiosity. The expansive beauty of the emerald, when associated with diamonds and other precious stones, may be seen in the tiara with its green foliage of the Queen of Spain, and, if I remember aright, in a similar part of the Crown jewels.

\* This identical gem afforded foundation for a story from the pen of Madame de Genlis.

ornament in the compartment of M. Bolin, in the Russian Court. The value of a fine emerald of 4 carats is about £20. This stone requires to be differently set from other gems, in order to display it to the best advantage. It should be cut in steps, larger or smaller, according to the intensity of its colour. One of the largest emeralds ever seen in England was that which decorated on state occasions the turban of the Nepalese ambassador. In Mr. Hope's collection, so frequently referred to, there are three large emeralds of remarkable size, one of which was being scagliolized converted into a vinaigrette.

The precious opal, in its most striking form, is far from common; but there are no tables so easy to estimate its value. Its colour is white or pearly grey, and when interposed between the eye and the light, is pale red, or yellow, with a milky translucency. By reflected light it is rendered iridescent with emerald green, golden yellow, flame-red, violet, purple, and blue; so blended that it is difficult to fix with the eye the exact locality of any one of the colours. When these varieties of hue present themselves in small spangles, it is entitled the harlequin opal. It sometimes displays only one colour; thus the emerald green, and orange yellow; when it assumes the latter it is distinguished as the golden opal. It is often full of flaws, which, strange to say, increase rather than detract from its beauty. In the collection of Mr. H. P. Hope's jewels, displayed by Messrs. Hunt and Roskell, there are several fine opals from Hungary upwards of an inch long, and nearly an inch wide. Some of them display a profusion of prismatic colours. These are highly valued, and are the basis of the art of magical beauty. The opal ought never to be otherwise cut than hemispherically. This stone was held in superstitious reverence by the ancients; we read of a Roman senator who preferred death to resigning his opal into the hands of the Emperor Nero. It is no part of my present province to notice in this place the interposition of opals with rubies and brilliants; but the opal pendant and drop set with rubies and brilliants, as the late Messrs. Garrard, and Messrs. Hunt and Roskell, have exhibited. The family of the topazes is a large one. First, there is the Oriental topaz, then the yellow, red, blue, and white. The deeper its colour, the more valuable the stone. The topaz is not held in very great esteem. One of upwards of eighty carats weight has been sold for £100. The pink is made from the yellow topaz by artificial means. The red topaz fetches the highest price, because the most uncommon. There are upwards of a dozen English and Eastern topazes in the collection of Mr. Hope, exhibited by Messrs. Hunt and Roskell, more than one of which are parti-coloured. It contains also some white topazes, familiarly known as the *mina nova*.

The aqua marine is, as its name implies, of a sea-green colour, and is oftenest found in Ceylon and the Brazils; sometimes it is of a greenish yellow, a bluish green, and greenish blue. It was formerly a stone of considerable value, but has been discovered in large quantities in the East Indies, and has consequently fallen in the market; some of those exhibited by Messrs. Hunt and Roskell, are of remarkable size and beauty of colour. One is almost as blue as a sapphire, another is yellow, and others parti-coloured. One of the finest specimens that is known forms the handle of Murat's sword, and is in the possession of Mr. A. J. Hope. The largest aqua-marine in the world is in the collection of His Majesty. It was presented to George IV. by Lord Strangford. It has been confounded, improperly, with the carbuncle, by the old writers on precious stones. It comes not only from India, but from Greenland, Bohemia, and Syria. A century ago it was in great request. It is now chiefly used for gentlemen's shirt pins. Garnets may be worn with mourning. There are several large and fine garnets in the Hope collection, some of which are violet-coloured, others ruby red, and others parti-coloured.

The peridot, or common chrysolite, is of a rich olive green colour, of more or less intensity, and is only found in the Levant. It is neither very hard nor very brilliant, unless by candlelight, when it is always seen to the best advantage. It requires to be cut in steps to set it off properly. It is chiefly employed in bracelets and serivings. There is a fine engraved peridot in Mr. Hope's collection, representing Apollo and the lizard in intaglio; it is engraved by Calandrelli. This stone was exceedingly scarce a few years ago, but, although specimens of a very light hue are plentiful enough now, we have rarely met with one of the proper intensity of colour. These stones are affected by the atmosphere, and are sometimes rendered dull and almost opaque by the cold and damp.

The chrysolite, or Oriental chrysolite, was in great odour a century ago, and is intended of course to be set in the most precious gem he could think of, makes Orsello declare, that had Desdemona not have deceived him, and the world had been one "perfect chrysolite," he would not have sold her for it. The chrysolite is the only coloured stone that shows to the greatest advantage cut brilliant-wise. The cynophane emits a luminous white ray, which seems to change its position as it receives the light. I do not remember to have met with a single specimen of it in the Crystal Palace.

The yellow crystal, rock crystal, sardonyx, and chrysochryse, belong to the same class, both in order and translucency. The cat's eye is considered as a sort of crystal enveloping amaranthus. Fine specimens of this stone are regarded with superstitious veneration by the Cingalese.

The sard was always selected by the ancients for the purpose of engraving upon them. They may sometimes be obtained very large. The chrysochryse, which is of a cloudy green colour, is a poor stone of comparatively little value. It is affected both by cold and damp, and is chiefly employed for seals and ladies' brooches. It does not admit of being cut in the ordinary way.

The opaque stones, with a single exception, hardly fall within our province. The turquoise is, however, so exquisite a gem, when set with diamonds, rubies, emeralds, or pearls, that we cannot afford to overlook it. The finest variety, called *turquoise fine*, is of a uniform and compact. The turquoise is much in request among jewellers. Those who would see it in perfection must refer to some of the jewels of M. Bolin, the Jeweller to the Emperor of Russia; and especially to the exquisite bracelet recently purchased of that gentleman by Mr. A. J. Hope. The turquoise harmonises best with brilliants and pearls. It is easily and effectively imitated.

The largest stone to be considered a species of diamond, but has lately years gone wholly out of fashion. In the Hope collection there are some very fine specimens. The tourmaline is chiefly remarkable for its electrical properties. It usually occurs in black and opaque crystals; its colours are green, blue, or pink. By heat or friction it becomes electric, and retains the property for many hours. The moonstone is a translucent gem of a bluish white colour. Spheroidically cut, it reflects a strong light. It is principally used for ring stones and ear-rings. The sun-stone is a rich variety of aventurine, which reflects a bright flame colour. It is of a silicious character, and owes its peculiar beauty to the arrangement of its particles or scattered specks of mica in ferruginous quartz. Messrs. Hunt and Roskell exhibit a sun-stone cameo of a monkey's head, which affords a just notion of the singular character of the stone. They have also supplied a fine specimen of the sun-stone. But the finest variety called *turquoise fine*, is of a uniform and compact. The turquoise is much in request among jewellers. Those who would see it in perfection must refer to some of the jewels of M. Bolin, the Jeweller to the Emperor of Russia; and especially to the exquisite bracelet recently purchased of that gentleman by Mr. A. J. Hope. The turquoise harmonises best with brilliants and pearls. It is easily and effectively imitated.

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## MUSICAL INSTRUMENTS.

(THIRD NOTICE.)

Among the numerous and almost infinitely varied kinds of musical instruments in the Great Exhibition, there are none of modern introduction after the pianoforte, that have become so quickly popular, or are so generally adapted for the amateur as well as professional artist, as the musical instruments the tones of which are produced by vibrating plates of metal, in contradistinction to strings as in the pianoforte, harp, violin, or tubes, as in the organ, flute, horn, &c. The concertina, harmonium, seraphine, accordion, musical boxes, &c., are included in this class: the common Jew's harp is also of the same kind; and though most simple and primitive in form and sound, we possess in it the principle on which the construction of these instruments is founded; and no doubt this mere school-boy's playing gave the first idea, which, with

the aid of science and observation, combined with mechanical ability, has led to the production of this distinct and agreeable class of modern instruments. The vibrating plate (called also a reed or tongue) is of a narrow strip of metal fastened at one end, while the other is left free, and placed over an aperture (also cut in metal) which is nearly its counterpart, and in which it is so fitted, that, while it touches nowhere, it only allows a certain quantity of air to pass through: the current or column of air forces the plate from its position, to which it again returns by its own elasticity, and the temporary diminution of the pressure causes the escape of the air, and thus a constant series of vibrations, causing continuous tone, is excited. We have given this brief explanation of the mode of producing the sounds in this class of instruments, because, in point of construction, they are characterised by some superior qualities, which must have considerable influence on their general appreciation, such as the length of time they keep in tune, their durability, the sweet and melodious quality of the tones, with the power of sustaining or prolonging them at pleasure, and their capability of being put into very compact forms, as in the concertina, &c. The demand for musical instruments of this kind has very much increased within the last few years, and the manufacture of them forms no inconsiderable part of the industry of many towns and cities on the Continent, as well as in London. Thus, an immense number of harmoniums, organs, and concertinas are made in Paris, and imported into this country. They are also manufactured in Germany, and exported to England and all parts of the world; and the fabrication of musical boxes of all kinds is a source of employment to a large number of persons in Switzerland.

The concertina, the most elegant and perfect instrument of its kind, was patented about twenty years ago by Messrs. Wheatstone. The invention is due to Professor Wheatstone, by whose name it is known; and the instruments, which are especially adapted for travelling, with vibrating plates have been effected. Since its first introduction the concertina has steadily progressed in public favour; and, perhaps, the best proof of the sterling merits of the instrument is the readiness with which it has been taken up by professors of ability; and whoever has heard such artists as Regondi, Case, Biagrove, &c., perform on it, must agree that its invention has been a valuable addition to those musical instruments, which are so generally and so extensively used in drawing-room; its lightness and portability are also greatly in its favour.

Messrs. Wheatstone (Class 10, No. 526) exhibit a number of concertinas of every description—treble, baritone, tenor, bass, and double; and also dissected, to show the construction of the interior, which fully displays the care and finish for which their instruments are well known; and it may be as well to explain, that it is owing to the fact, that the reeds are so arranged in the instrument, and fitting tongues, and the construction of the bellows, that the English concertinas surpass, in beauty of tone and durability, those made on the Continent. The folding harmonium, also by Messrs. Wheatstone, is exceedingly ingenious, and will be highly appreciated by travellers. It has five octaves, and is excellent in tone and quality; and, though sounding sufficiently high for a person to sit to, can, by a well arranged division of the keys, and some very cleverly contrived machinery, be made to close up, and occupy a space not much larger than a good-sized tea-caddy.

Mr. Chidley (No. 544) exhibits some concertinas in highly ornamented cases, and Mr. Case (No. 545) some excellent instruments.

The display of harmoniums is more limited than we should have anticipated, considering the increasing popularity of these instruments. M. Alexandre and Son, of Paris, exhibit, in the French department, a very fine instrument, with Thälberg, with Thälberg, with Thälberg, with Thälberg, considered to be a great improvement, as it affords superior facilities for execution by the promptness with which the tone is produced. We have, also, an *orgue de voyage*, by M. Müller (No. 1365). Though a portable instrument, it does not approach, in completeness of mechanical arrangement and compactness, the one exhibited in the English department by Messrs. Wheatstone. There are also harmoniums by the same firm, both of Paris, exhibiting in the English department; but, as they are evidently out of place there, being imported, and not the manufacture of this country, we cannot notice them, as we conceive the exhibition by English agents or importers of articles stated to be obtained only of them, but of foreign manufacture, to be quite opposed to the spirit and intention of the present Exhibition, which is professedly to show the comparative merits of each nation of the world in the matter, even to the manufacture of drums and trumpets, from Austria, Prussia, and other parts of Germany, some displaying novelties of construction. One, in the Austrian gallery (No. 164), by Steinkehl, Vienna, is in the form of a guitar, with two octaves of keys, arranged the same as in a pianoforte. There are also some concertinas from Vienna; they are, however, far inferior to the English. In the Swiss department will be observed some highly ornamented boxes, some of which are on a larger scale than has been before attempted, being much more powerful, and playing a greater number of tunes. One, by Gay and Lusin, Geneva (No. 85), imitates a military band, and is a splendid specimen of its kind.

The show of brass wind instruments in the French department is exceedingly good, and the great number and variety exhibited would seem to indicate the *penchant* of our Gallie neighbours for anything of the musical character, even to the manufacture of drums and trumpets. First and foremost, amongst the foreign exhibitors, is M. Adolphe Sax, of Paris (No. 1726), well known in England and on the Continent as the inventor and manufacturer of the Sax horns, so beautifully played by the Messrs. Distin. M. Sax has succeeded in giving to his horn a soft, full, clear, and musical quality of tone, which was before considered almost unattainable on that instrument; and, from being scarcely ever heard by in an orchestra or a military band, has, in the hands of the Messrs. Distin, become an agreeable variety in the concert-room. The instruments exhibited by M. Sax in the Nave, from the Sax horns and cornet-pistons to the immense trombones, are characterised by the greatest beauty and finish, as well as elegance of form. The kettle and side-drums are also fine specimens of those instruments. Leaving the French department, and returning to the French Musical Department, M. Basson (No. 494) exhibits almost every species of brass wind instruments, of excellent make and construction; among them are two cornet-pistons of the most costly description and finest workmanship; one is of solid silver, and the other silver gilt. M. Gauchet and Co. (845) exhibit a large collection of instruments of excellent make; and M. A. Courtais, sen. (130), wind instruments, with his patent curvilinear-piston to replace into rectangular pistons, the workmanship of which is very good. The other exhibitors, of whom we can only give the names, are M. A. Courtais (1162), M. Labaye (556), and M. Roth (935). Austria, after France, exhibits the greatest number of brass wind instruments; many of them are exceedingly good. They are principally from Vienna and Prague.

Belgium, Prussia, Bavaria, and the Zollverein likewise contribute a number of brass wind instruments, but they do not call for any special notice, as they are all very similar to the French and English in the construction and finish of their instruments.

In the English department (Class 10), the display of brass wind instruments is not very extensive; but in one or two instances it makes up in quality what it lacks in quantity. M. Kohler (640), well known in England and India as being one of our largest and first manufacturers of these instruments, contributes specimens of his patent valved wind instruments. They are distinguished by the highest character of workmanship, correctness of model, and elegance of form. The patent valves are an improvement on the old sort of valves, as, by diminishing the number of acute angles, less obstruction is offered to the passage of the wind, consequently producing a richer, clearer, and more even tone, and giving greater certainty and regularity to the notes, as less difficulty and exertion in producing them. M. Kohler has also introduced a spiral spring in the place of the watch spring, which was so very liable to break and get out of order.

Messrs. Pace and Sons (517) exhibit cornetpans and trumpets with improved valves, and without angular trimmings. Messrs. Park and Koenig (504), a variety of brass wind instruments. There are also several exhibitors from the provincial towns, among whom Mr. Case of Exeter, Mr. Case of Exeter, and Mr. Case of Exeter. There are also others from Manchester, Birmingham, Dublin, &c.

For the drums, we have already spoken of those exhibited by Sax. M. Augustus Knoche, of Munich (No. 100), exhibits a pair of mechanical kettle-drums, which can be altered in pitch either by the hand or feet, and with much greater ease and in less time than by the ordinary method. They have not been used in the Royal Academy at Munich for the last ten years. This certainly seems to be an improvement; the only objection appears to be in the greater weight in consequence of the iron framing, and the increased cost.

M. Rexer, of Stuttgart, Württemberg (25), also exhibits drums, to tune mechanically with screws.

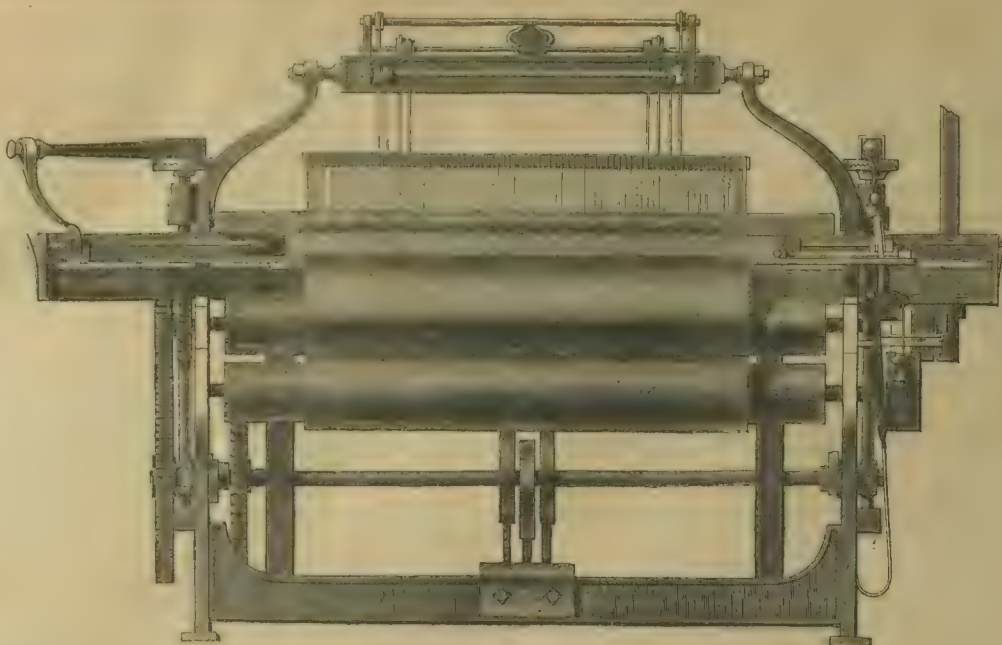
In our next we shall notice the flutes, of which there are a great variety, with the improvements introduced by Boehm; and the violins, of which there are some fine specimens.



# HARRISON'S IMPROVED POWER-LOOMS.

MR. HARRISON, of Blackburn, not only exhibits two modern looms, for light and heavy goods respectively, but also adds much interest to this part of the Exhibition, by placing, side by side with his improved machines, an old loom made about half a century since, at Abbey Mill, Paisley, and which is very similar to the power-looms at first worked in that district, in 1740, by Mr. Robert Miller, of Milton Pruffield, near Dumbarton. This old contrivance was considered a wonder at the time of its introduction, although only capable of running sixty picks or throws off of the shuttle per minute, with advantage, besides requiring the constant attendance of one person. The new looms may be driven at the rate of 220 picks per minute, and are now working at that speed both in the Exhibition and also at the mills in the manufacturing districts.

By the application of several improved motions, one person is enabled to attend to two, and in some cases three, looms at once. These motions are respectively known as the "weft protector," the "temple," the "positive taking-up motion," the "reed and break," the first two of which motions have been patented by Messrs. Kenworthy and Bullough, of Blackburn; the loose



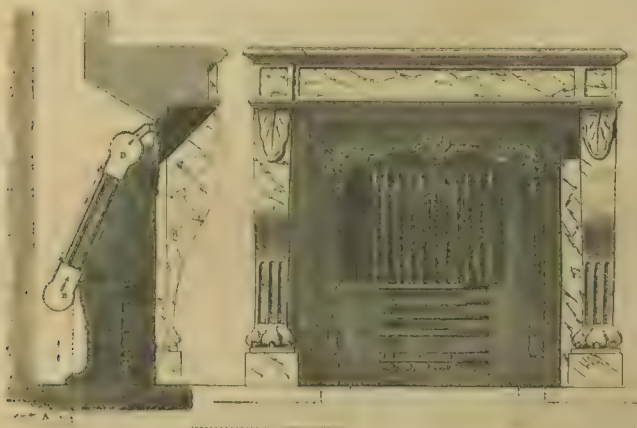
HARRISON'S IMPROVED POWER-LOOM.

reed and break by Mr. Bullough, and the fast reed and break by Mr. John Sellers, of Burnley. The weft motion is a very simple and beautiful contrivance, consisting

of the aid of the operator to move it; thus his utmost attention is needed, without which it might continue to move with the fabric until it would be of no use at all; moreover, it perforates, and very often

ing of a small fork which acts in connexion with the setting or handle of the loom; and whenever the weft thread breaks, or is absent from its place, the machine is immediately stopped, by means of either of the above-mentioned breaks: it would otherwise go on weaving without weft, which would, of course, leave a part of the cloth unfinished, and thus the piece would be entirely damaged. This motion, therefore, dispenses with the very great care and watchfulness hitherto required on the part of the operator, and enables him to produce more cloth in a given time, thus benefiting both his employers and himself. The "temple" is a long semi-cylindrical box or trough, into which is fitted a roller, cut or fluted to nearly one-third of its length at each end, so as to give it the appearance of a file. The use of this roller, which rotates on the trough, is to keep the fabric at one uniform width throughout the piece, and the sides free from perforations and rents, thus giving the whole a more finished appearance than usual.

In the old loom, already referred to, is also a temple, but it requires the most attention is needed, without which it might continue to move with the fabric until it would be of no use at all; moreover, it perforates, and very often



WARMING APPARATUS, WITH PRISMATIC TUBES.—BY FONDET.

tears the sides of the cloth.

The "taking-up" motion is introduced for the purpose of ensuring uniformity of thickness throughout the piece, and regulates the number of threads of weft in a given space, by the application of a small wheel containing a certain number of teeth or cogs, acting in connexion with three other small wheels and the cloth beam, which latter at one and the same time folds up the cloth and moves it so as to ensure the desired thickness throughout; whereas, without its use, the fabric may present different thicknesses throughout.

The loose reed and break of Mr. Bullough is the most suitable for light fabrics, and the fast reed and break of Mr. Sellers for heavy goods. Whenever the shuttle falls in traversing the sley from one end to the other, a great destruction of threads is almost certain to take place in the ordinary looms; but in those to which Mr. Bullough's invention is attached the loose reed falls out at its place, and gives way to the shuttle, so that no derangement or breakage of the warp can take place.

The above-named are the leading motions of the power-loom of the present day; but there are many other motions which are but little less effective to the complete and perfect working of the whole. By the old loom, which stands on the right-hand side of the two im-



WARMING APPARATUS, WITH CURVILINEAR TUBES.—BY FONDET.

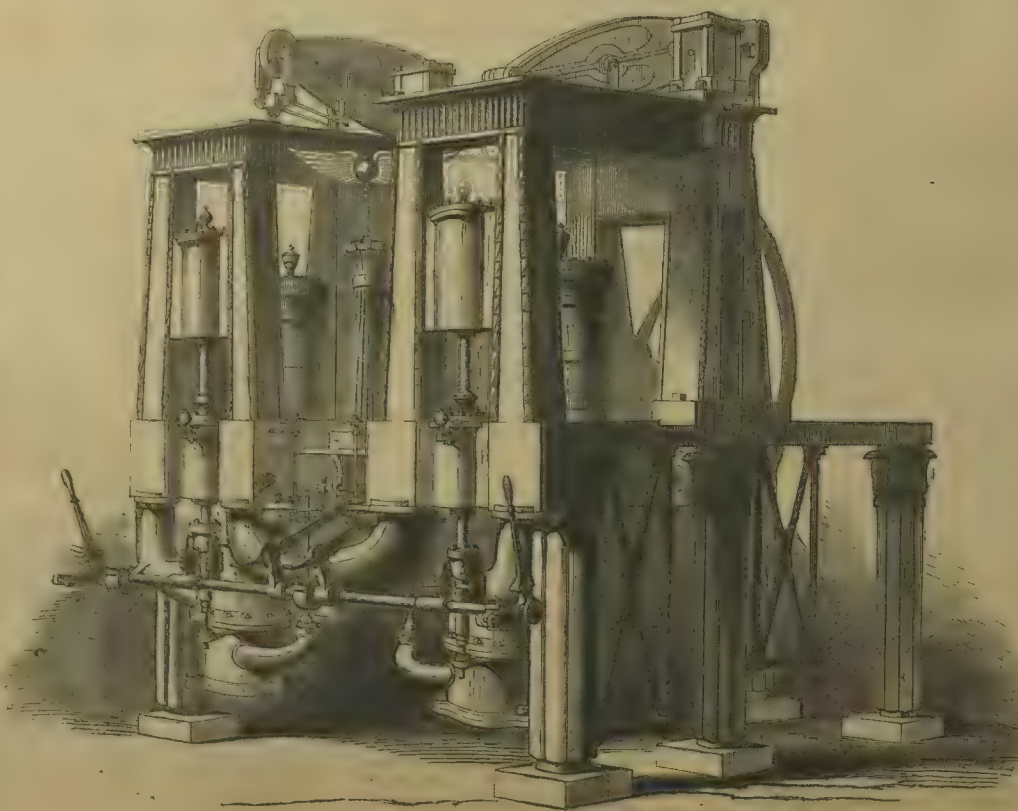
proved looms, not more than one-third the amount of cloth can be produced as compared with the workings of the new looms, although twice the amount of labour is required to produce the same quantity in a given time.

We understand that an experienced operative will produce 25 pieces, 29 inches wide and 29 yards long, of printing cloth of eleven picks per quarter inch, from two looms in a factory working sixty hours per week.

The weaving of each piece costs 5d. The same person, if set to work at one of the old looms, could only produce four similar pieces, each of which would cost 2s. 6d. for weaving alone; thus an immense saving is effected by the new looms for weaving alone. With such facts before them, our readers will not be greatly at a loss to account for our vast superiority over all other nations of the globe in the production of every description of cotton fabrics.

## TWO SPECIMENS OF WARMING APPARATUS. BY FONDET.

These are two specimens of stoves, in cast iron, by Fondet, of Paris; in one of which curvilinear tubes, in the other prismatic tubes, are introduced. The contrivance is ingenious, and will doubtless prove successful. The same manufacturer exhibits several contrivances for curing smoky chimneys, which are deserving of attention.



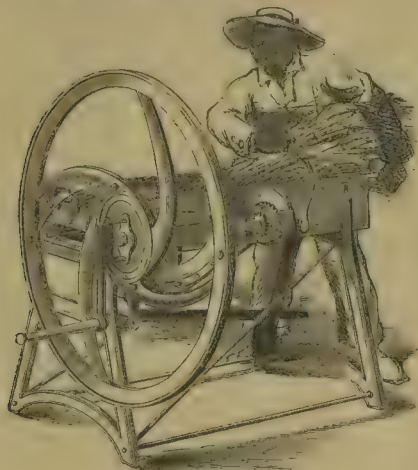
MODEL OF A STEAM-ENGINE.—BY HICKS, OF BOLTON.



## AGRICULTURAL IMPLEMENTS.

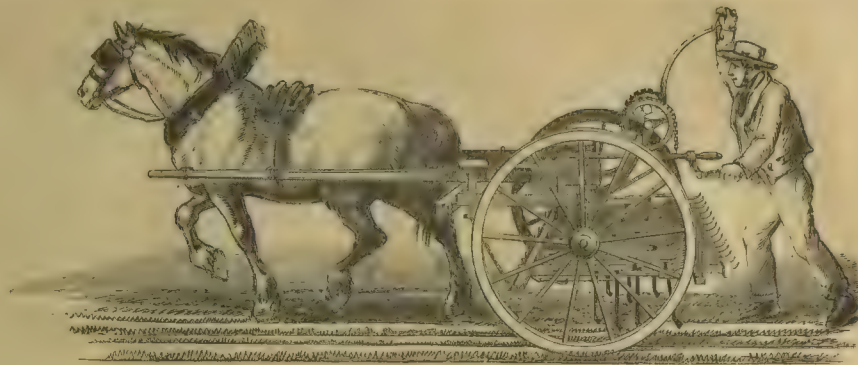
## RANSOME AND MAY'S CANE-TOP CUTTER.

This machine is one of a number of valuable implements introduced by this eminent firm into the West India.



RANSOME AND MAY'S CANE-TOP CUTTER.

It is used for cutting cane-tops for cattle, and is in high repute there. It has two knives, and cuts the cane into lengths of half an inch. It can be worked by one or two persons, and is constructed in the simplest possible manner, requiring no particular skill on the part of those who



GARRETT'S PATENT HORSE HOE.

regulated, was the invention of Mr. Clyburn, of the Uley works. The operation is performed with great ease, and the regularity and parallelism of the frame-work as it is raised or lowered is quite perfect. Our engraving of this machine is as constructed by Messrs. Burrett and Exall, of Reading.

## GARRETT'S PATENT HORSE HOE.

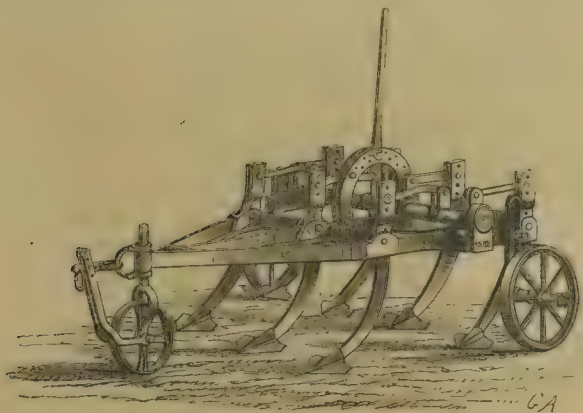
This implement is calculated to work an important improvement in field cultivation, as by its use corn of all kinds, drilled in rows of not less than 7 inches apart, may be hoed in a superior manner at a cost not exceeding sixpence per acre. It is adapted to all the prevailing methods of drill culture, either for cleansing crops drilled on the surface or on ridges, the axeltres of the wheels being moveable at both ends, to suit the varied intervals between the rows of plants; and as each cutting hoe works on a lever, independently of the others, the weeds are effectually destroyed, however uneven the surface of the ground, the hoe being kept a uniform depth by means of regulating keys. The steerage forms a valuable feature of the implement, as the hoes may thereby be guided

about six inches above the lower one, parallel with which, by means of a lever, it is moved backwards and forwards: this motion regulates the depth of the tines in the soil, without having to lift the frame of the machine, which remains always at the same height from the ground.

It is the invention of Mr. R. Colman, of Chelmsford, Essex, by whom they are manufactured.

## BADDELEY'S FARMER'S FIRE-ENGINE.

The frequent occurrence of fires in the agricultural districts has led Mr. Baddeley (whose name is well known in connexion with a variety of matters connected with the means of extinguishing and escaping from fires) to design a cheap and efficient engine adapted to the requirements of the farmer. It is exceedingly portable, as one man may move it from place to place. All the working parts are constructed to bear the roughest usage it may meet with on a farm, and any farm labourer may be taught in a few minutes how to use it. The valves are of metal, and not liable to derangement; but, should any obstruction occur, it can be re-



COLMAN'S DRAG HARROW AND SCARIFIER.

use it. It is made entirely of metal, to avoid the inconvenience and damage which occur to machines constructed of timber.

## LORD DUCIE'S CULTIVATOR.

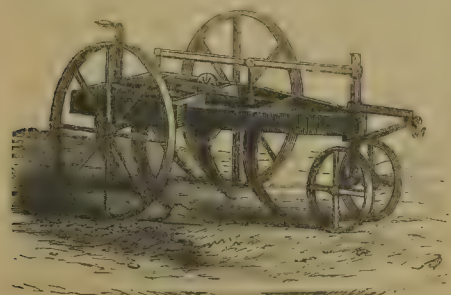
The introduction of this implement was a great boon to agriculturists, it enabling them to adopt a much higher state of cultivation at the same cost, as its strength and excellent action render it nearly equal to a second ploughing, while the labour attending it is not more than one-

with the greatest precision, perfectly hoeing the intervals without injury to the corn or plants. As much as from 10 to 15 acres per day may be hoed with one horse, a man, and a boy. The horse hoe offers particular advantage over hand hoeing, besides saving of expense, as the work may be performed at the proper time; and as the hoes penetrate a greater depth, fresh life and vigour are given to growing plants, by stirring the mould around them.

## COLMAN'S DRAG HARROW AND SCARIFIER.

This is a modification of the Ducie Cultivator, and is an excellent implement as a drag harrow and scarifier, eradicating all weeds and rubbish from the foulest land: it is also efficient for opening, raising, and pulverising the soil; and with different blades fitted to the tines, it makes an excellent skim, to take off couch, &c.

The principal novelty is in the frame at the top being suspended

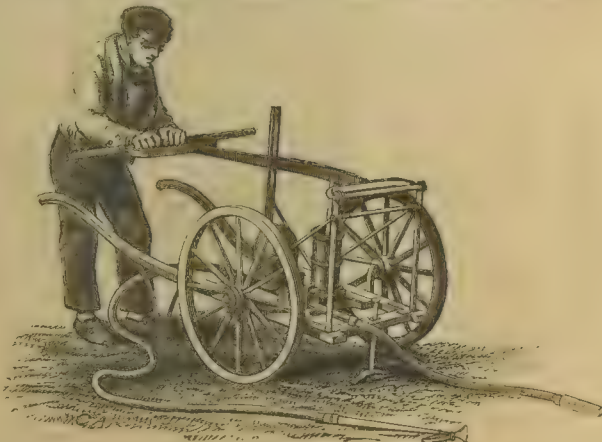


LORD DUCIE'S CULTIVATOR.

third. It is in this peculiarity that it differs from the machines of a similar description that preceded it: they all partook too much of the mere harrow character, and had no claims such as Lord Ducie's has to be called a cultivator. Their action was almost entirely confined to scratching on the surface, while the Uley implement disintegrates the soil to a considerable depth, and does actually in a short time, if constantly and properly used, quite change the character of the tilth. The mode in which it is raised out of the ground, and the plan by which its depth is

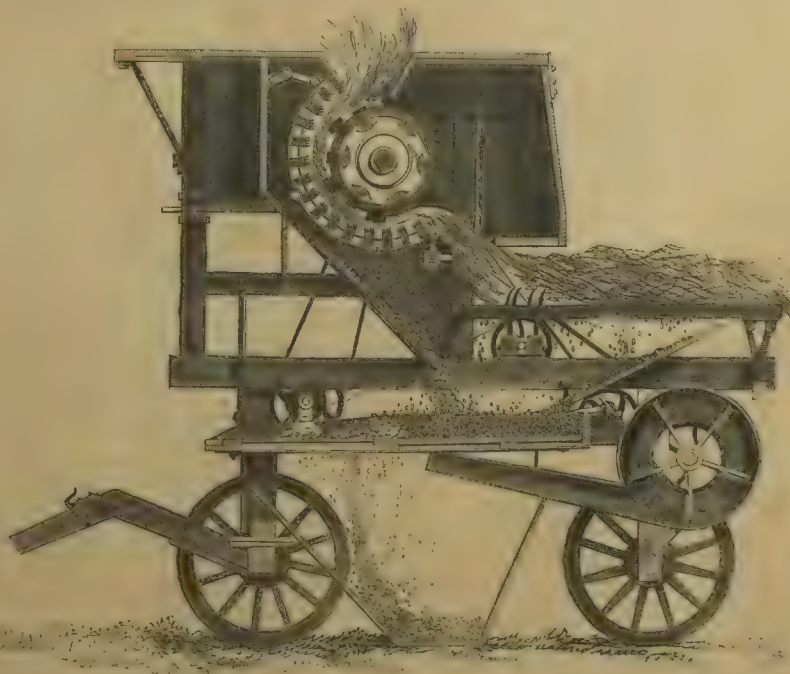


BARRETT, EXALL, AND ANDREWS' GORSE-BRUSER.—(SEE NEXT PAGE.)



BADDELEY'S FARMER'S FIRE-ENGINE.

moved instantly without disturbing any of the working parts of the engine. The branch-pipe is furnished with a spreader, by means of which the water can be made to act over a large surface, which is specially important in the event of fire in corn or hay-ricks, or weather-boarded buildings, &c. Worked by three men, the engine will throw a jet of water between 50 and 60 feet in height, and, from the great rapidity with which it can be brought up and set to work, it will be found more efficient in arresting the progress of the fire, than one of more powerful character at an advanced stage of the conflagration. Not the least part of the advantage to be derived from the machine, is the fact, that it will be equally useful as a liquid manure forcing-pump, and for a variety of agricultural purposes, as for the special object of extinguishing flame. They are constructed for the inventor, by Mr. Meredith, of Long-acre, which is a guarantee for their excellent workmanship and general efficiency.



GARRETT'S IMPROVED THRASHING-MACHINE.—SECTION.—(SEE NEXT PAGE.)



## BARRETT, EXALL, AND ANDREWS' GORSE BRUISEL.

The introduction of gorse as food for cattle is every day gaining ground. There are times and situations when gorse is a most valuable article to cattle-feeders, its nutritious qualities being of the highest class. Various noblemen and gentlemen have used it with advantage, and made a variety of experiments, always with satisfactory results, more especially with milk cows and sheep.

The great obstacle in the way of general introduction is the difficulty of getting rid of the hard points or prickles in which the nutritive juices of the plant are contained. Until these are entirely destroyed, no animal can swallow it; though, when they are destroyed, any horse, cow, or other herbivorous animal will eat it with avidity, and prefer it to any other food, even though the animal may have never tasted it before.

The old practice was to subject the gorse to the action of heavy edge-stones (as in a cider mill), until the introduction of a proper machine by Messrs. Barrett, Exall, and Andrews. This machine both cuts and bruises the gorse, and delivers it for use as soft and much like long moss, in which case, of course, any animal can eat it without inconvenience.

## GARRETT'S IMPROVED THRESHING MACHINE.

As comparatively few persons are aware of the actual construction of the threshing machine, we have thought it would be better to engrave Mr. Garrett's engine in section, so that the principle of its action, as well as the detail of its working, may be more easily understood.

Threshing by machinery is now the ordinary practice all over England; every large farmer has one of his own, and the smaller holders hire one for the time of persons who keep them for that purpose. The threshing machine was originally invented in Scotland, by Andrew Muckle, and was used there for a considerable period previous to its introduction into England.

The Scotch machines were, and are, altogether of a much clumsier and heavier description than the English, who have an improved upon the invention of Muckle. The Scotch generally retain the original principle, which consisted in holding the straw firmly between two rollers, while the corn was beaten or scutched out by a series of bars, fixed transversely upon a drum, revolving with considerable velocity parallel with the feeding rollers, the concave or breasting part having little to do with the actual threshing of the corn. In the English play the most important part, the straw being fed directly between the drum and the concave, without the use of rollers, and in its passage through it is rubbed out, instead of being beaten out, as in the Scotch manner. The great objection to threshing by either of these machines, has been the damage done to the straw by the action of the beaters, it being for some purposes, such as thatching, quite spoiled. To obviate this difficulty, Messrs. Garrett, of Leiston Works, Saxmundham, Suffolk, have succeeded in bringing into general use the one called a "bolting machine."

In this, the straw, instead of being fed in endways, as in all the old machines, is admitted lengthways, and, in consequence, is not bent or broken in the least by passing through. We are not quite sure whether the Messrs. Garrett were the original inventors of the bolting machine; but, certainly, they deserve the credit of having brought it into general use. The latest improvements added to their machine, as shown in engraving, are, 1st, the improved form of the breasting or concave, and the manner of adjusting the same to the drum; 2nd, a straw shaker, which receives the straw after it has passed through the machine, and clears it of all loose kernels that may be amongst it; 3rd, a vibrating screen for separating the loose ears, short straws, caving, &c., from amongst the corn and light chaff, the latter being driven off by a blast-fan while the corn is passing over the screen. After the corn has passed the various processes above described, it will be found free from all chaff and rubbish, and, once passing through a dressing machine, it will be fit for the market.

## SIDEBOARD, BY WILKINSON.

This sideboard, in walnut-tree wood and pollard oak, is remarkable for its good taste in the design, and simplicity in the ornamentation. It is not often we meet with a work so unexceptionably well finished, with so little attempt at meretricious display.



SIDEBOARD, BY WILKINSON.

CHEMISTRY.  
(THIRD NOTICE.)

THE thousand apologies to the presiding genius of the Crystal Palace, whoever she be, for our great neglect in having omitted to discuss the chemical properties of her temple's lucid walls.

Gold was described in our last paper; and so, according to all received notions of chemical order—notions which, perhaps, should not be lightly set aside, silver, the precious twin-sister of gold, ought to come next. Impressed with this opinion, our ideas went wandering into those up-stair regions of the Glass Palace, where shine in such ostentatious splendour the elegant products of the silver-working artisans. But suddenly a thought occurred, that glass should be our theme; accordingly, it is on glass we proceed to write.

Glass has become very common now—applied to purposes of such variety, that pages would not enumerate them all. Sparkling on our door knobs, adorning our coal-scutes, furnishing vases, goblets, mirrors, chandeliers; preserving sound and in good order liquids of almost every kind—from black draughts to champagne—from aqua-fortis to pump water. Ground into lenses, it reveals to us the telescope the sublime immensities of the heavens; or, by the microscope makes known to us the no less sublime revelations of minute created forms. Extended into threads and woven into cloth, it rivals the most gorgeous fabrics of silk. Drawn into wire, it furnishes the best chronometer springs. Cast into pipes, it bids fair to rival, for common purposes, earthenware, iron, and lead; and, not content with glazing our window-frames, it threatens hereafter to usurp the functions of bricks, slates, and tiles.

Common though glass be now, there was a time when any single vase, taken almost at random from the glass treasures of the Crystal Palace, would have rivalled in value the Koh-i-Noor. The Emperor Nero gave for two cups with handles 6000 sesterii, a sum nearly equal to £60,000 of our money; nor let the reader imagine this large sum to be in consideration of the size of the vessels, for we are told they were very small.

Some people will have it that glass is spoken of in the book of Job, ch. xxxvii., v. 18, but it seems more probable that allusion is there made to some other transparent substance. Probably the first authentic mention of glass exists in the writings of Aristotle, who proposed for solution the two questions—"Why do we see through glass, and why is not malleable?" Theophrastus, who lived about half a century later than Aristotle, mentions the formation of glass from the sand of the river Belus; and from that period the manufacture of glass became tolerably well understood. Stimulated, we presume, by the question of Aristotle—"Why glass was not malleable?" the attempts to discover a method of rendering it so have been frequent, as well amongst the moderns as the ancients. It is related, indeed, but on very questionable authority, that the problem of forming malleable glass has been at least three times solved—once by a Roman architect, who lived in the reign of Titus, and who, as a reward for his genius, suffered the loss of his head; a second time by a Roman artist, who had his house pulled down by the populace because certain vested interests of ordinary glass-makers were considered to be infringed; and a third time by a French artist during the reign of Louis XIII. Of this man it is recorded, that having presented a bust of malleable glass to the Cardinal Juelien, he was rewarded by perpetual imprisonment. A uniformly hard glass seems to be in store for all who work at the subject of malleable glass.

We need scarcely say that the most celebrated piece of ancient glass that has been transmitted to our own times the Barberini, or Portland vase, which survived the natural vicissitudes of many centuries, only to be shattered by a vandal of our own times. This vase was discovered about the middle of the 17th century, enclosed in a marble strong-box, and deposited within the tomb of Alexander Severus, who died in the year 235. The term Portland vase arose from the circumstance of its having been purchased by the Duchess of Portland. For many years this vase was imagined to have been made of porcelain, but it is now well determined to have been composed of deep blue glass. The chemical difference, however, between glass and porcelain is in reality very

slight; hence we need not marvel at the fact that Mr. Wedgwood, the celebrated porcelain manufacturer, produced an admirable fac simile of this vase in his own material.

Glass for the purpose of making windows was first mentioned by St. Jerome, about 422; and a century later, we are informed by Paulus Silentiarius, it was employed in the church of St. Sophia at Constantinople.

Some will have it, that glass was made in our own island by the Druids long before the Roman invasion, but the assertion is very doubtful. The first authentic mention of the use of window glass in Britain refers to the year 674, when, according to the venerable Bede, the Abbot Benedict sent for artists from beyond the seas to glaze the windows of the church and monastery of Wearmouth, in Durham. The houses of the common people, however, were not furnished with glazed windows until the 13th and 14th centuries.

The following entry occurs in the minutes of a survey of Alnwick Castle, made in the year 1567—"And because throwe extrem windes the glasses of the windowes of this and other my lord's castles and houses here in the country doth decay and waiste, yt were good the whole leighes of crasse windowes at the departure of our lordships from lylage at anie of his sadle castles and houses, and downe the next of our lordships absence or others lylage in them were taken doune and lade up in asfette; and at sooch time as ether his lordship or anie other sholde lye at anie of the sadle places the same might then be sette uppe for newe with smale charges to his lordship; whereas now the decaye thereof shall be verie costlie, and chargeable to be repayed."

For the history of glass this short sketch will suffice; let us now direct our attention to its chemistry. Glass may be defined to be a compound, transparent, uncrystallized siliceous salt. Yes, a salt is glass; and if, reader, this expression startles you, your surprise is not likely to be diminished when you are told that not only is glass a salt, but so are bricks and tiles. In short, the substance which constitutes flint, and rock crystal, and glass-making sand, is what the elder alchemist called *silice*, or *silica*; but what we better informed people of modern times call *silicic acid*.

Now, silicic acid unites with potash, soda, lime, the oxide of many common metals, particularly of iron and lead, the results of which combinations are so many corresponding salts, called *silicates*; and these silicates are glass.

Silicic acid, unlike most other acids, combines or appears to combine (and the whole theory is involved in the same difficulties) in any desired proportion. These combinations are endowed with certain qualities in common: for example, they are all more or less transparent; they are all more or less fusible; and, instead of passing at once from the liquid to the solid state, as is the case with most other salts, they assume the intermediate condition of tenacious paste, capable of being blown into bubbles, rolled into plates, moulded into vases, pulled out into tubes, filaments, or wire. The reader will easily now see the distinctive characteristic qualities of glass. Although the general outline of the theory and practice of glass-making is easy enough, much care and science are involved in adapting the constituents of glass to the numerous purposes to which it is now applied. Thus, for example, by employing an excess of potash or soda, and decreasing the amount of silicic acid or powdered flint, we obtain a glass which is completely soluble in water, and which would be evidently unfit for all common purposes to which glass is applied. Indeed, however strange it may sound to those not chemically informed to be told that the glass of a window-frame, or mirror, or vase is capable of solution in water—such, nevertheless, is a fact. To accomplish this feat, nothing more is required than to fuse the glass with a certain additional quantity of potash or soda; by which operation it is reduced to the condition of the glass we have already described as being soluble in water, and which would be equally soluble in water. It was in this way that the alchemists of old surprised their patrons and admirers by dissolving flints. Fusing them with a large excess of alkali, they converted them into soluble glass. Modern chemists have gone further than this—nothing being more common now than the conversion of flints into an *insoluble* glass; but this glass does not come under our notice to-day.

Before altogether departing from the subject of soluble glass, it would be improper to omit pointing out a very useful purpose to which one variety of soluble glass may be applied; namely, as a sort of incombustible stucco, for protecting textile fabrics from fire. If fifteen parts of

sand, ten of carbonate of potash, and one part of charcoal be melted together, a variety of soluble glass results, which, although soluble in hot water, is perfectly insoluble in cold. Used as a substitute for starch it is not affected by atmospheric dampness, and renders the fabrics which it has been applied to as stiff as those of the steepest cloth. When dried, this compound presents any special difficulties of manipulation, and we are not practical laundresses enough to determine. At any rate, its exceedingly valuable qualities should not be lightly forgotten.

The varieties of glass used in the arts are exceedingly numerous, and are distinguished by marked chemical characteristics. As great precision in classification is not so much our object in writing these papers as an attempt to give a broad outline of the subjects which come within our sphere, it will suffice for the present to divide glass into coloured and colourless. The latter we may consider as the basis of the former, just as water may be regarded as the basis of numerous coloured solutions.

Many persons will have, doubtless, remarked the frequent use made by our neighbours, the French, of the term *crystal* as applied to certain kinds of glass, which are employed for the purpose of making goblets, vases, cut ornaments, and, in short, all objects where pure colourless transparency is required. This designation, *crystal*, corresponds to the English expression, *flint glass*; an expression so far wrong, that the peculiarity of such glass depends, not upon flint, but upon *oxide of iron*, and, a material which, when added to silicate of potash or soda, renders the glass more purely transparent, refrangible, and, at the same time, softer than it would otherwise be.

The art of making coloured glass is now brought to great perfection in England and France, as well as Bohemia, and involves some of the most delicate appreciations of chemical science. We will rapidly announce some of the chief substances employed in communicating the various tints. First, then, the exquisite ruby red, now so great a favourite for our ornamental vases, is communicated by minute portions of oxide of gold, while other qualities of red are communicated by glass-makers *fushing*, namely, dipping a solid bead of white glass into a fused mass of coloured glass, then, blowing the former into a bubble, the latter coats it to a very thin extent. The operation of *fushing* may be compared to the veneering of one wood on another, and gives an almost infinite power of colour-ornamentation to the glass artist. Thus, by grinding off the outside coating of coloured glass in definite shapes, we have the white glass foundation showing through, and by dipping the white glass foundation into two or more consecutive baths of different coloured glasses, and carrying the grinding operation to various depths, an almost boundless variety of ornamentation may be commanded.

The art of employing coloured glass for the construction of Gothic ornamented windows is of tolerably ancient date. Probably the origin of this art must be attributed to the Romans of the Eastern empire, and probably they communicated it to the ecclesiastics of northern and western Europe. At various periods, the art of pictorial glass illumination has undergone changes of style and mode of execution, giving rise to various distinctive schools of art, on which it is not our province to touch. One remark, however, applies to all ancient windows of coloured glass; and it is this—Although in power of grouping, drawing, and form, modern painted glass windows have excelled their prototypes, the latter are pre-eminently superior in general harmony of colouring and tone. This fact is the more to be wondered at, seeing that chemistry and mechanism have largely added to the resources of the modern glass maker. For instance, the coloured glass-maker of the middle ages was unacquainted with the magnificent ruby red produced by gold; and in those days the surface of glass, of whatever colour, was devoid of that smooth polished surface, at this period has been made at the part-finish of a celebrated modern glass-maker asserts that it is chiefly to the latter cause, the exceeding smoothness of surface, that the artistic inferiority of modern coloured glass windows is chiefly owing; and his remark is so far consonant with analogy, that we know the impossibility of executing a water-coloured drawing characterised by any high degree of excellence on a smooth-surfaced paper: on the contrary, as the power and ambition of water-colour painters expand, so do they employ papers more and more rough.

Whatever may be the ultimate form into which it is designed to fashion glass, there are only two general methods of elaborating it into shapes: the first is by the process of *casting*; the second, by that of *blowing*. What is termed commercially plate-glass, is the result of casting and polishing—processes that we will presently describe. Plate-glass is used for the panes of mirrors, and for the panes of semi-circular and houses; but, beyond these purposes, its uses are circumscribed. The non-chemical reader will, perhaps, marvel to be told that the glass of ordinary windows, although flat, is not plate-glass; neither is the glass employed in the construction of the Crystal Palace; both these are blown or bubble glasses, though resulting from two separate processes of manipulation. First, we will describe the process of making window-glass, the history of the Crystal Palace glass being a reasonable association of ideas is most useful in conveying information, we will not hesitate to avail ourselves of its aid. Has the reader never seen a glazier's man walking through the streets with a collection of awkward semi-circular pieces of glass on his back, each piece furnished with a thick lump, technically called a *bull's-eye*? Has the observer never asked himself the question why, seeing that window-frames were square, glass out of which they were to be cut should be made round, or semi-circular, and still further deteriorated by the presence of the useless bull's-eye? These imperfections (or imperfections they must be called) are an inevitable necessity of the method by which window-glass is made. It was originally a bubble. The bull's-eye is the thick part where the bubble was attached to the workman's iron blow-pipe, and the ultimate form of the glass—viz. a circle—results from the gradual opening of the bubble, on the iron blow-pipe after a certain time, the workman swings the end of the bubble into a cylinder, which cylinder having both its extremities cut off, and being laid open by a longitudinal incision, is allowed, whilst yet pasty, to flatten on a hot iron plate, by which means a sheet of glass results.

The glass employed for the construction of the Industrial Palace is called sheet-glass, and, although constructed from a bubble, the manufacture is different from that already described. First of all, a round bubble, created by the workman by a dexterous swing of the end of the bubble into a cylinder, which cylinder having both its extremities cut off, and being laid open by a longitudinal incision, is allowed, whilst yet pasty, to flatten on a hot iron plate, by which means a sheet of glass results.

Plate-glass, such as is used for mirrors, is formed by pouring the melted substance on a flat metal table, and rapidly passing over the mass a very heavy metallic roller. As thus prepared, the plate is rough on both surfaces, and does not acquire the brilliant smoothness of plate-glass until it has been subjected to the tedious and expensive operation of polishing.

Glass polishing is thus conducted: the plate of glass, rough and wavy as it appears when first lifted from the metallic table whereon it was cast, is now cemented on to another table by means of plaster of Paris, and is then gradually and evenly ground down by means of glass smaller than the first is placed upon it; and again is scintillated upon this, and a third piece of glass superimposed. In this way the operation of glass piling is continued until a sufficient number of plates have been thus arranged, when, by means of machinery, a motion of friction is imparted to the whole, until a sufficient portion of the uneven surface has been removed. The result of this operation is the production of glass of a smooth surface, which is then polished by hand. The next step consists in applying friction, aided by a material less rough than sand, emery being for this purpose the substance employed. Still the glass is not quite smooth until the ultimate finish has been given by friction, with colicother and putty powder.

The chief use of plate-glass is for mirrors, which are formed by covering the back of the plate with an amalgam, a combination of quicksilver and zinc, which, when exposed to the action of heat, produces a method of imparting to glass a metallic surface, real silver being employed instead of quicksilver. This process is more especially applicable to the silencing of globes and other curved vessels, with small orifices, for this operation depends on the property which certain solutions of silver have to deposit their metal in a thin coat; hence, where, over a convex surface, we wish to have a thin layer of metal deposited, whereas by the old process of mirror-making we effect our purpose by smearing or painting a layer of tin foil with quicksilver, and then pressing it tightly down on the glass.

From glass polishing the transition is very easy to glass cutting, which, indeed, should be called grinding and polishing too. When writing about the diamond, we remarked that the term cutting, as applied to these gems, was inappropriate, and we adduced one of the objections. Now, just as inappropriate is the term as applied to the







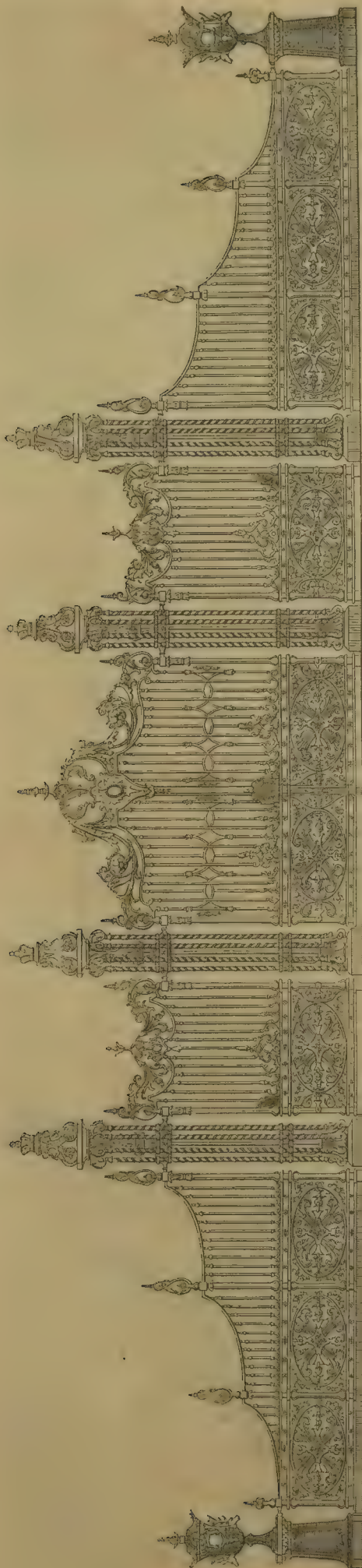


THE MACHINERY DEPARTMENT OF THE CRYSTAL PALACE.—MESSRS. HIBBERT, PLATT, AND CO'S COTTON-MACHINES.



CARVED FONT. BY MARGETTS AND EYLES.

The workmanship in this elaborate production, which is in Caen stone, is such as leaves us no room for complaint. It is unexceptionably neat and smooth. The style of the composition, however, is of the very thick of mediæval absurdity, and demands unqualified disapprobation from those who are anxious for the advancement of art, and the principles of rational poetry upon which art should be founded.



BRONZED GATES.—BY THE COLLIERCOCK DALE COMPANY.—(SEE PAGE 252.)



NYMPH OF LURLEIBERG.—BY ENGELHARD.—(SEE PAGE 252.)



GIRL AT THE SPRING.—BY W. F. WOODINGTON.

THE BOY AND LIZARD. BY STEVENS.  
We have referred to this pleasing little work in an article upon

Sculpture, in the present sheet. We see it is now the property of Lord Colborne.



BOY AND LIZARD.—BY STEVENS.

STATUETTE.—CARTON-PIERRE. BY GROPIUS.  
This is one of the numerous statuettes in carton-pierre exhibited by Gropius, of Berlin. The subject is the Muse Melpomene.

GIRL AT THE SPRING. BY W. F. WOODINGTON.  
This figure stands in the South Transept. Though by no means perfect, it is graceful in conception, and is fairly executed.



STATUETTE IN CARTON-PIERRE.—BY GROPIUS.



FONT.—BY MARGETTS, OF OXFORD.



The "palkies," or conveyances used when the sun is low in the horizon, is of rather smaller dimensions than the palanquin, having no canopy or dome above it. It is carried on the shoulders of servants, and an attendant is always given to it when these bearers are in the habit of working or running together. The seats and all materials with which these conveyances are lined are all of Indian manufacture; and we cannot but admire the taste and elegance displayed not only in the mixture of colours, but also in the beautiful patterns embroidered on all the pelt and silver parts of the work.



WAX-WORK.

THE great glass beehive contains a certain portion of wax. To this, in its artistic forms, as representing the productions of nature, we propose to invite attention.

The wax flowers in the Exhibition occupy a prominent and extended space. Their series of red labels strikes the eye almost immediately upon entering. They are in the North Gallery, over "Persia" and "Greece." A more graceful cluster of contributions to the great collection will not easily be found. Let us ascend the staircase, and examine the *hortus vicicus* laid out by a series of ingenious gardeners, chiefly ladies. It is a little winter garden, arranged in anticipation of the intended Paxtonia. And should the idea of the great garden be carried out, and the colossal notions of the gentlemen who publish *indignant* and stimulating epistles be realised—as a cascade "rivalling Niagara" is to pour from the roof of the North Transept to the ground, "the large trees being rendered accessories to the magnificence of the prospect," and a hundred fountains in various parts of the Building are to be fed from the monster torrent, we think that in many of the thousand nooks and corners which will be created by the development of these bold conceptions, there will be an excellent and fitting place for a permanent display of the talent of our wax florists. If the projected garden be intended as something more than a beautiful sight, and if the science of botany is to be—as it easily might be—illustrated, progressively, in a way which has never been attempted before, the imitative art will necessarily be called in to complete many a chain of specimens. It will occur to our readers that there are vast numbers of trees and plants which it would be impossible to exhibit in a public building, having due regard to the comfort of those who are to frequent it. The magnificent palm-house at Kew is an admirable specimen of contrivance, and contains a noble collection; but for how many consecutive minutes is it possible for a person in ordinary health to endure the tropical atmosphere? The sudden plunge into a climate supposed to reproduce that wherein

The feathery palm tree rises,  
And the date grows ripe under Eastern skies,

is in itself a reason for the comparative neglect for which the public are, we think, unfairly, complained of as regards Kew. But, though the actual cultivation of many exotics would be incompatible with the proposed purpose of the Crystal Palace, there is no reason why such plants should not be artistically represented. A most beautiful and interesting addition to the attractions and to the scientific advantages of the place might be made, if those who are to have its arrangement would call a council of botanists, and empower them to instruct Mrs. Peachey, Mrs. Dorval, the Messrs. Minion, and the other leading artists in wax, to exert their skill for the due illustration of those botanic families whose real representatives it will be impossible to introduce into the Building. We commend this suggestion to the consideration of the authorities, and, as precedent is everything in these days, we refer them to the mineralogical department of the British Museum, where, that the diamond family may be adequately shown, we find real diamonds up to a certain size, and then paste copies of diamonds which it is impossible to obtain.

The art of modelling wax flowers is a very charming one; but a certain disavowal has attached to its practice by amateurs, on account of the deleterious ingredients which the modelling of wax requires, for the sake of cheapness in production, frequently introduced into the material. But this is merely one of the "accidents of commerce," as frauds are now politely termed, and its results may be avoided by purchasing only of first-class tradesmen. We are informed, upon the best authority, that there is no necessity for the mixing one single grain of injurious matter into the material, by which the highly variegated bouquet that ever glowed. And, this objection set aside, we have a more elegant accomplishment for a lady than the knowledge of this art. She must keep perpetually before her the most exquisite and fragrant production of nature; she must study it with the same closeness of observation she gives when making water-colour drawings; and she reproduces her flower with a cleanly and pliable material—the very type of plasticity. And as her best-groomed fingers, which she keeps in her hands, in tapestry, our fair artist every day adds a new element to her apartment; she has, in plebeian parlance, something to show for her money and trouble. And, as for the money, the economical character of the necessary preparations will not in these times be among the least recommendations in the eyes of papas and husbands. We are apprised that all the articles a lady requires to enable her to make wax flowers are a pair of scissors not too tight in the screw, a small and large china-headed pin, one ivory pin, tinting brushes, some red wax, some white, some small, some large, some of chrome, and white, all in powder, a little wire, and some sheet wax. This is not a very formidable array of machinery; and, this obtained, the art may be acquired by the study of any of the excellent little hand-books upon the subject, or, more easily, by a few lessons from one of the regular artists. We should, of course, prefer to see a lady in the open air, with her flannel hat and gardening gloves, tending real flowers; but, in an in-door amusement, there can hardly be a prettier one than what, if *Lady Macbeth* had been in the habit of practising it, her husband would have called the throwing one's talents

Into the fire and yellow laaf.

The wax-florists at the Exhibition are chiefly English, the foreign contributions in this department being unimportant. One of the more effective instances of grouping is on the stand appropriated to Mrs. Strickland, who displays a very handsome oval vase of graceful shell-like form, containing a very charming collection of flowers. But a more interesting sight is upon another portion of the same lady's stand, and where the eye does not so readily detect it. This is a model of that extraordinary production of America, the *Kidney-plant*, resembling which so much in form and colour. Both sides of the gigantic leaf, with its extraordinary and almost innumerable ramifications of fibre, are shown, and the flower is seen in its various stages of development. Other artists have the flower in their collections, and it is excellently re-produced; but Mrs. Strickland's is, we think, the most complete illustration of this very remarkable plant. Mrs. Temple has an exceedingly handsome case of remarkable flowers, the colours of many of which are exquisitely displayed. Mrs. Powell's collection also deserves the highest praise. It appearing to us that this lady is peculiarly successful with the more delicate flowers, and very fortunate in the selection of her tints; there is also much artistic taste in her arrangement. In selecting a few names for mention, it must not be supposed that any censure is implied in the omission of their names, for we cannot call to mind a single instance of carelessness or unfaithfulness (so far as we have had opportunity of studying the British and foreign originals), and there is not a case in the cluster which will not reward examination. The crowd of fashionable visitors who seem instinctively to find their way to this corner of the Exhibition, testifies to the success of the various artists. But we must specially refer to a large case, exhibited by the Minion family (well known to their skill in these productions), and for whose useful publications (the *Illustrated*), who show a variety of the more rare and one British and foreign originals. We do not know whether there may not be a want of what critics call "artistic feeling" in this group. We are scarcely learned enough to say whether the unity of time is preserved; in their words, whether specimens in such different seasons can be seen in the same time. Mrs. and Messrs. Minion do not display their works in the same way as ideas in execution. A more thoroughly interesting, and more carefully assorted display of natural beauty and quaintness, we have never seen. It has a higher value than that of simply imitative art. We must also mention some wax fruit, by Mr. J. Down, with strong reprobat on, not because it is not exceedingly good—much of it indeed beautiful—but because its situation is so disadvantageous. It is placed in a corner, almost of unimportance to the greatest possible number of the King's gallery. Upon occasion of several visits which we have paid to the part of the Exhibition, we have noticed specimens arising from Mr. Down's fruit, which is manifestly placed "on a table of original design," so low as to be on a level with the juvenile. We have seen several notions, tending at still in new, and lately suddenly put up with at this display of fruit, and compelled to battle to the wax progeny, which, listlessly passing other attractions, clings to Mr. Down's table, and refuses to be comforted. And, one day last month, we saw a small and greedy-eyed boy, who had slipped from the maternal gripe, and slunk

back to the wax pears and apples, busily but stealthily trying to insert a knife at the junction of the glass. We watched him, with a faint hope that he would succeed, but his incautious proprietor came up, and with a hasty swoop, and some extemporised comminations, bore him away. Mr. Down is responsible for that lad's disgust at our social institutions. And before passing from the wax flower group, we may add an expression of our regret, that differences of some kind prevented its including the very magnificent case of an artist, and which was prepared by Mrs. Peachey, one of the artists in wax to her Majesty. The stand itself, which, with its contents, was on private view, is, externally, more elegant than any of the cases in the exhibition, and the flowers would have yielded to none in variety or brilliancy of tint. The reputation of Mrs. Peachey, whose artistic talent is of a first-rate description, would have justified the artist in some particular, and would have enriched this department of the Exhibition with a feature of no ordinary beauty.

We ought not to leave the Gallery without glancing at a large glass-case, before which there is always such a crowd of mamma and little girls, that a male critic seems an intruder. The contents of this case hardly come under the two heads into which we propose to divide our examination of the wax-work in the Exhibition, inasmuch as they are, in general, mere representations of the productions of nature, or of a group of the human family. They are, however, something between the two. The case consists of dolls, *en cerc, nus et habillés*. They are by Madame Montanari, a name of which we shall have occasion to speak by and by. Certainly, it is impossible to conceive a more charming fairy court than is held in this minor glass palace. There are dolls in every stage of doll life—baby dolls, lady and gentleman dolls, and dolls of various kinds, and some animals. But the little smile of early dollhood with the finished toilet of a milliner's model. The hair is inserted into the head, instead of being gummed on in a scalp, and the eyelashes and eyebrows are similarly arranged. The costumes of the figures are superb, finished *à quatre épingles*, and the tiny ornaments, bracelets, earrings, watches, chains, and rings, are put on with microscopic precision. There is a *partie carrée*, consisting of young ladies representing the four quarters of the world, and being fair or dark, according to their place of nativity, and their dresses, though in the cases of Africa and America a little idealised, are very appropriate. The magnificent *toilettes* of some of the larger ladies elicit the most charming little screams of rapture from the fair inspectors, and the baby-models, with their fat naked legs and taper fingers, exert very loving glances from young mothers. There is a quaint little nudist who stands up in front, like *Fruct* among the fairies, and very grotesque by contrast with the luxurious wardrobes around. Altogether, Madame Montanari may be congratulated upon having set an artistic example which will be duly appreciated by those happy parents who can afford to indulge the idolatry of their offspring with objects the expense of which, we suppose, bears a due proportion to their elegance. In an adjoining frame, however, and named upon a more economical principle; they are called by the Ashleys, and are rag-dolls, but the title does not suggest the smart-looking articles in question, which, though of course lacking the high-bred complexion and style of the wax ladies, are rosy and smiling enough. This sort of doll, which is by no means dear, is, we are informed, largely patronised by her Majesty for the benefit of the Royal nursery. All its merit is that it is perfectly soft, and therefore cannot injure a child, and is so yielding that a child cannot, in turn, injure it. Strictly, we have no right to include the rag-doll in our examination, but it may perhaps be allowed to come in with its waxen brothers and sisters, by whose side it dwells, rejoicing in the approval of Royalty.

In the Fine Art Court, down stairs, we find a few additions to the collection of wax-work modelling, as *deux de fleurs*, copies of plants, a portrait group, several medallion portraits, and some animals. But the great wax feature of the Exhibition, and, in an artistic point of view, by far the most important work in this department, is a large group of figures which we find pyramidally arranged on a large table in this part of the Building. A spectator cannot fail to observe it, from a rickety canopy incessantly shaking over it, and from the number of visitors crowding round it. It certainly deserves all attention, for it is not only a collection of exquisitely finished works, but it conveys a vivid idea of a remarkable people. The artist, Mr. Montanari (though his name be foreign, he comes into the English department by virtue of his residence in London), has endeavoured, most successfully, to illustrate "Mexican town and savage life." This he has done in a series of figures, chiefly single, but several in groups. They represent an immense variety of incidents in the life of the wild and free Mexican. Among the most conspicuous subjects in the history of the civilised man in the bull fight, of which separate episodes are shown. In one of them the outraged and infuriate animal, snarling under the torture of the *banderillos* which are fixed in his back, is making his terrible rush.

His eye is fixed I away,  
Away, thou heedless boy; prepare the spear—  
Now is thy time to perish or display  
The skill that thy may check that mad career."

In another group the bull's last moments are approaching—the Mexican rival of the "great Montez" is modulating the death stroke:

And now the maddened sinner him play,  
Shake the red cloth and the deadly brand;  
Once more through all he darts his thundering way.  
Vain rags! the mantle quills the conyng hand—  
Wraps his fierce eye 'tis d'ér—he sinks upon the strand.

Another, and a very well-imagined group, illustrates the period when the game is over, and the body of the slaughtered bull is being hurried away from the arena, that a living animal may take his place.

And steeds that spurn the rein, as swift as shy,  
Hurl the dark bulk aloft, scarce seen in dashing by.

But these groups, excellent as they are, the fiery character of the scene being well preserved, and the dresses of the *torador* and the trappings of the horses being very elaborately finished, are by no means the most interesting features of the collection. These, we think, will be found in the Indian and slave figures. The Indians are particularly characteristic of the fierce and predatory habits of a people we hear fresh news of by every batch of American journals; but the mixed and picturesque of the race will be best understood by these models. There is a kind of second Mexican *Kolla*, where a white child high in air; only the sentiment of the situation is reversed, as the Indian is stealing the infant ("robbing" him, the label states, but the dagger and attitude speak of felony rather than larceny). And there is a scalping scene of great horror; the long black lock of the victim being firmly grasped by his victor, who has thrown him on his knees, and brandishes the glittering knife with a fierce cry of triumph. A figure of an exceedingly aged female Indian is executed in admirable style, every fibre in her lean frame apparently developed, and her whole aspect that of misery. The more pleasing aspect of Indian life is shown in the charming figures of some of the younger *Amavas*, who are models of female beauty so far as form goes. Their bodies are covered by drapery, a gay feather garment from the waist to the knee being about the extent of their wardrobe, their admirable proportions are brought into favourable view. The rich dark complexion glows with health, and the limbs are full of strength and vigour. Presuming these ladies to be types of their class, and not exceptional beauties, the Indian may be forgiven the weakness with which he is represented. Some figures of slaves, engaged in various menial offices, show a different phase of life; and these, who have, apparently, the equal of the Indian, without his fierce bearing, look pitiable enough—they seem to drag the limb, rather than use it, and their countenances wear a very degraded expression. Contrasted with them is the delicate and elegant *Indio* of a Mexican belle, who appears with a display of gold and jewels, something like the *Indio* of the *Illustrated*, who is a most captivating sight, and, in point of beauty, throws the most brilliant costumes of the Old World completely into the shade. Observe her step and manner—some *Indio* some coquetry, and a great deal of fire and only at a very short distance. She is not a person one would like to offend, and yet, no doubt, she is very fascinating to her kind. Her attitude, further, and her *Indio* has thought proper to type "Mexico herself," in an elegant figure of a woman, dressed in a light, and naked, who is mounted upon a hawk of gold and brass, and, in her banner, "looking fearlessly into infinity." In another place, and we presume, in order to show that his faculty of representing a class, and not a few, we find a white Venus, very carefully and delicately modelled by the same accomplished artist, the rosy tinted flesh of Europe contrasting well with the dusky complexion of the *Indio*. Yet, as we have touched upon but a few of the large collection, which will fill two or three galleries, and almost every variety of social and unusual life. The artist is very fortunate in his treatment of most of his figures: the wax serves him excellently; but what will probably strike the mass of spectators as the chief merit of these figures, is the extreme neatness and minuteness and beauty of finish, chiefly as regards costume and ornaments. Not only has the coquette her bracelet, but every jewel in her bracelet is

shown—ear-rings, finger-rings, watches, all are in the same state of marvellous completeness. What would, of course, be unworthy, if not impossible in the case of a work of pure art, is here most laudable. The artist's object was imitation, not idealisation, and he has carried out his intention with extraordinary care and success. For a series of literal transcripts, executed *à merveille*, we have not often seen anything equal to Mr. Montanari's Mexican figures.

As we have said, England has nearly monopolised the wax-work of the Exhibition. If, guided by the Catalogue, we wander through the foreign department, we here and there light upon a solitary case of flowers or fruit, but we do not discover much requiring mention, except in the Portuguese department, where, in no very favourable place for view, we find some "Waxen work, by H. Ferraz and others," which consists of some small cases of modelled fruit, apparently executed with care, but not arranged in a way which does much justice to the fair artist.

It seems fair, at the end of such a notice, to remind such of our readers as do not take much trouble to find out things for themselves, that the "undoubted original inventors and artists in wax" are the only permanent occupiers of any part of the Crystal Palace. They are permitted to sleep there at night, and to carry on their avocations during the day, with constant liberty of ingress, egress, and regress, upon the arrangement that they do not intrude into any other part of the Building than the commodious apartments appropriated to their use. These are at all times open to the examination of the public, and those who would like to see the manufacture and its adaptation, have only to ascend to the Gallery, at the extreme western end of which they will find some sheets of glass so arranged as to form a kind of little conservatory within the building, but completely isolated from it, and with entrances outside the windows. This glass is, if the author of "Orion" will allow us to borrow the phrase, the "false medium which separates bees of genius from the public."

S. B.

NEW WATCH-STAND. BY JONES.

This is a very pretty little article for the table or chimney-piece, afford-



NEW WATCH-STAND. BY JONES.

ing security for the watch, with facilities for presenting its face in any direction desired.

JEFFREY'S MARINE GLUE.

The marine glue is one of the inventions which have arisen from experiments made to attain in some measure the same object by different means. Messrs. Jeffrey, Walsh, and Co. exhibit in Class 6 a great variety of specimens of their marine glue as applied to various parts of vessels, in order to show the strength and tenacity attainable by the use of this important substance. Many years ago Mr. Jeffrey turned his attention to a process, by galvanic action, of producing copper sheathing suitable for ships' bottoms; but, after numerous experiments and considerable expense, finding the cost of production of the copper sheathing by his new process to be equal to that of the copper-plates for ordinary use for the same purpose, he abandoned his scheme. Nevertheless, his investigations on this important subject led to "the idea of employing resins insoluble in water as an effectual protection to ships' bottoms." The result was the composition which is known as marine glue, and which is now so extensively used in the navy. It consists simply of three ingredients, viz. caoutchouc, coal naphtha, and shellac, in the hydraulic press, before the splinter could be effected. In order to show the great additional strength of the main-mast, the fore-mast, and the mizen, by the use of the marine glue, it is only necessary to observe that the number of feet of surface joined in the three masts is equal to 2128; so that only taking three tons to the foot, we have an additional strength put into these masts of not less than 6384 tons, a thing unprecedented.

The specimens marked 1 and 2 are removed a little way from the north "wall," where the rest, distinguished by the letters A to L inclusive, are placed close to the same wall.

No. 1 is a piece of the mast of the *Curacoa* frigate, after her return from South America. The glue was found to be inseparable even by the application of the wedge.

2. The next specimen is the piece of mast put together with the marine glue, and subjected to a pressure of 23 tons, by means of the hydraulic press, before the splinter could be effected. In order to show the great additional strength of the main-mast, the fore-mast, and the mizen, by the use of the marine glue, it is only necessary to observe that the number of feet of surface joined in the three masts is equal to 2128; so that only taking three tons to the foot, we have an additional strength put into these masts of not less than 6384 tons, a thing unprecedented.

The specimen distinguished by the letter A is a fib, tongued and put together with the marine glue. The block of elm, about 12 inches square, marked B, and put together with the glue, was subjected to an explosion of gunpowder. At the conclusion of the trial, it was found that the seam or joint was perfect.

The piece of a deck (C) put together with the glue was taken from a vessel, the interior of which was destroyed by fire, and, although the underside is considerably charred, the upper side, including the glue, is perfect.

Mr. Jeffrey, at the request of Sir K. Brunel, prepared a cannon-ball (D), of oak, about seven inches in diameter, which was fired at Woolwich, in 1842, at an angle of forty-five degrees, to ascertain the effect of concussion on the joint when rebounding from the earth. On an inspection of this interesting specimen, it will be found that the joint is still perfect.

The next specimen, marked E, is a block of deal about twelve inches square, with a surface glued of similar extent. The wood was shattered at four tons. Thus, taking three tons per foot, we have additional strength of 25,000 tons distributed over the hull of a first-rate.

F. Short length of a model mast, of about 8 inches in diameter, exploded with gunpowder. Although the wood is rent, the splinters are confined by the marine glue.

G is a section of the same. H and I. Short length of a section respectively of a model mast, of about 8 inches diameter, made of northern and southern timber, very dry and strong. These composite sections, put together with the marine glue, are perfect.

The next specimen, marked J, shows the method of covering the hull of a vessel with copper, by driving the copper under the main-mast, and then passing the copper over the upper piece, and connecting the two pieces together with marine glue. The ribs of the roof of the Transept of the Palace of Industry were thus formed, not, however, having the use of marine glue at the joints.

K is attached to a mahogany deck, paved with marine glue; and, finally, four seams are shown marked L, two of which are paved with marine glue, and two with pitch, which have been subjected to the same temperature under the line. The effect of the sun on the seams made of pitch has been to melt it away to the depth of an inch in parts, while the glue in the first case remains perfect.





THE GUARDIAN ANGEL.—BY VITTOZ.

## THE GUARDIAN ANGEL. BY VITTOZ.

Amongst M. Vittor's collection is a pretty little group, entitled "La Fortune et le jeune Enfant," which we have great pleasure in engraving.

## GROUP OF SILVER, FROM RUSSIA.

(See Engraving on Front Page.)

The ornamental works in silver from Russia are chiefly contributed by two houses—those of Iwanoff, of Moscow, and Theodore Verkhovzoff, of St. Petersburg. The style of all these works is of a high class of merit, the workmanship extremely finished, and the designs generally marked with good taste, being based mostly upon the examples of the best periods of European art. The group we have engraved is of works exhibited by the house of Sazikoff. The principal object is a large centre-piece, comprising a group representing Dmitri Donskoi, Grand Duke of Muscovy, after the battle of Koulikoff, in 1380, which delivered Russia from the yoke of the Tartars, under which it had been oppressed for 160 years. The artist has chosen the moment when Prince Michael Tverakoy comes to announce to the Grand Duke, who, having been wounded, is reclining under a palm tree, that the victory has been gained. The figures are extremely well designed, and the general effect highly artistic. There are other smaller fancy subjects distributed in various parts of the glass case, such as a goblet representing a Cossack woman, another with a Finnish hunter, a third with a milk-woman, and a paper press ornamented with a group of a dancing bear with peasants, all characteristic and capitally executed. Besides these, are cups, some of the Byzantine style, some of the Russian, and various other subjects, which reflect great credit upon the taste of the old Russian capital.

Verkhovzoff, of St. Petersburg,

## BRONZED GATES. BY THE COALBROOK DALE COMPANY.

The handsome Park Gates of cast-iron, bronzed, produced by the Coalbrook Dale Company, and which stands across the entrance to the North Transept, are justly admired as one of the most successful efforts of iron-casting of recent times. They are after an original design by Charles Crooks, and consist of a pair of principal gates and two side gates, which are hung on iron pillars of peculiar construction. Each of the gates was cast in one piece. The style is light and elegant, and the bronzing extremely rich.

## THE NYMPH OF LURLEIBERG. BY ENGELHARD.

All who have steamed up the Rhine know the precipice of Lurlei, and its famous echo, which is supposed to repeat sounds fifteen times. There is some legend attached to it, in which a nymph is concerned, though at the moment we do not recollect the particulars. M. Engelhard, of Hamburg, amongst other contributions in the plastic art, presents us with an inspiration of this fanciful creation—a composition of some merit of design, and not deficient in grace.

## COLLINGS'S PORTABLE STEAM-ENGINE.

Messrs. Collings exhibit in the "Machinery in Motion" Department a five-horse portable direct-acting high-pressure engine, in which we find great simplicity, owing to many of the reciprocating parts usually observable in engines being dispensed with. In this engine, the piston, with its vertical rod, which works in guides, acts on the crank by a connecting-rod, and the slide and feed pump receive their motion from eccentrics on the fly-wheel shaft. The reversing gear is of a novel description, enabling the engine to be worked in either direction with equal effect, so that this part of the machine may be applied with advantage to marine and also locomotive engines.

The frame-work is of neat appearance, entirely without ornament—solidity of material and economy in construction having been kept in view in forming the design.



STATUETTE OF AN ANGEL.—BY GROPIUS.

has also a very handsome display, though of fewer works, including a bas-relief in silver on a gilt ground representing the descent from the cross, chased by hand; and another representing the Crucifixion, Prophets, and Evangelists, also chased by hand, in the old Byzantine style, and intended as an upper cover for the New Testament.

## STATUETTE OF AN ANGEL. BY GROPIUS.

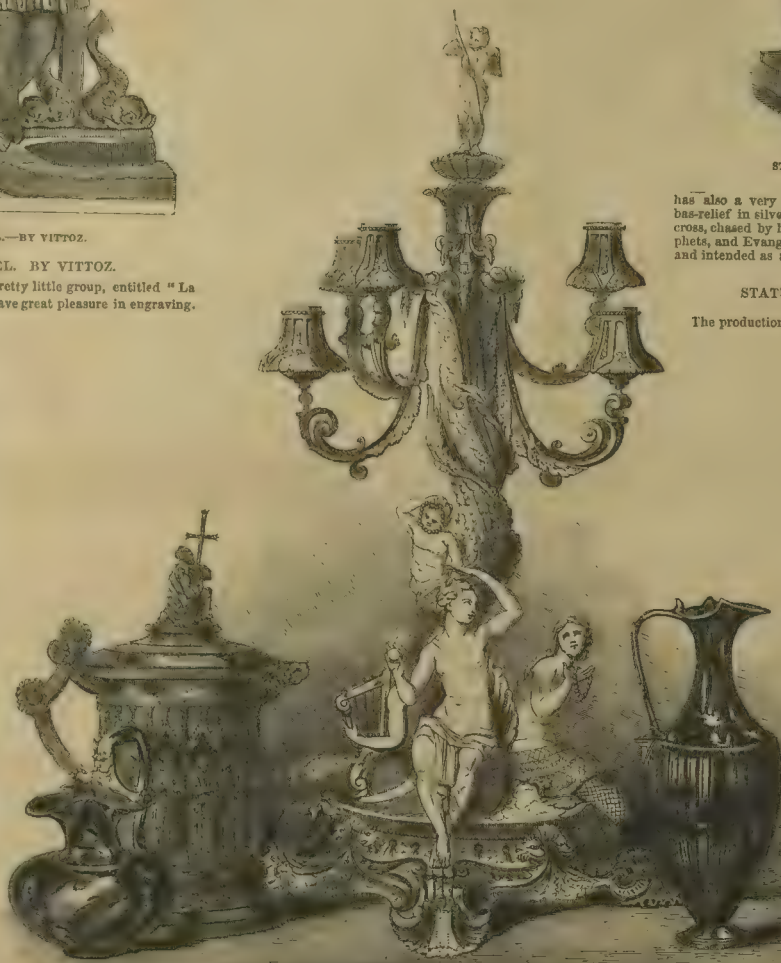
The productions in *papier maché*, paper, and stone, by Gropius, of Berlin, exhibit great variety, and considerable applicability for building decoration. The figure of an angel, which we engrave, is bronzed, and is appropriate for a niche in a church.

## CANDELABRUM, &amp;c. HARVEY AND CO.

This candelabrum is extremely fanciful, and pretty in design. It is composed entirely of shell-work, mineral plants, and water. The principal figure is that of Venus, on one side of whom is a syren singing her lover; on the other hand is another of the same class of beings, entwined in a net, who is presenting the Goddess of Beauty with a string of coral. On the stem is a young triton covering her with pearls; and on the summit a Cupid shooting at every heart. The workmanship is very careful, and the whole has a pleasing effect. The silver ewer of antique fashion, and the mug, which is silver gilt, of the cinque-cento style, are both very beautifully executed.

## WALL DECORATIONS IN CANNABIC. BY ALBANO.

"Cannabic" is the name of a new preparation from hemp, intended to supply the place of *papier maché* and *carton pierre*. Invented and patented by M. Albano. Whilst, perhaps, it has not quite the softness of surface of the former named materials, it has the advantage of great durability and of quickly drying. It was first used by M. Albano in the decoration of Covent-garden Theatre.



CANDELABRUM, &amp;c. BY HARVEY AND GRATHURST.

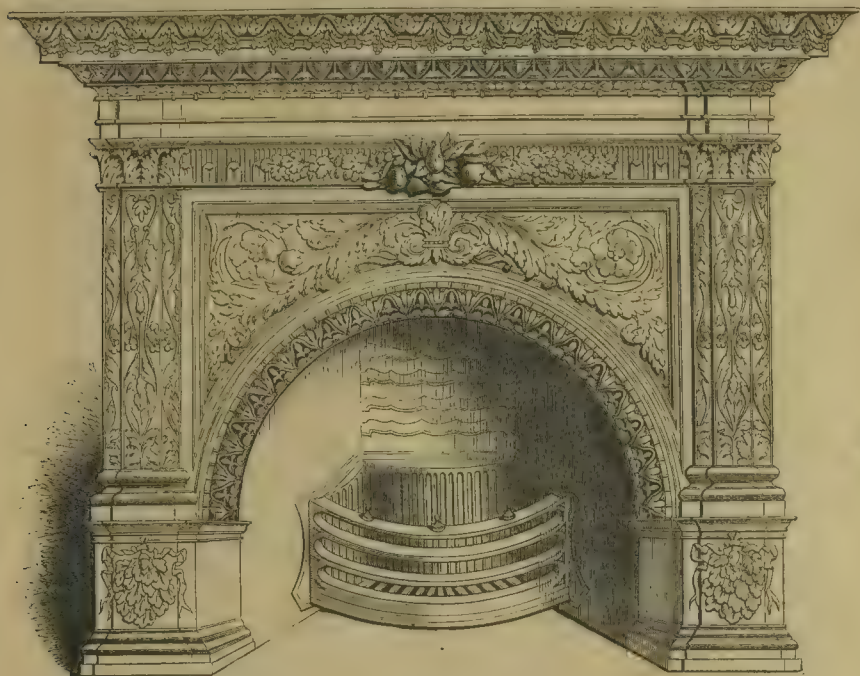


CANNABIC.—BY M. ALBANO.



CANNABIC.—BY M. ALBANO.





STOVE.—BY MESSRS. CARR AND ROBERTSON, SHEFFIELD.



GOTHIC CLOCK.—BY TAHAN, PARIS.

STOVE. BY ROBERTSON, CARR, AND CO.

This is a very handsome stove—simple, but effective in style, and of admirable workmanship, by Robertson, Carr, and Co., of Sheffield. The upper part is of cast iron, the grate of polished iron or steel.

GOTHIC CLOCK. BY TAHAN.

M. Tahan exhibits a clock, inclosed in a small Gothic turret, in carved ash, which is very creditable as to workmanship, and will be appropriate for fixing in any part of an old-fashioned house.

HALL STOVE. BY JEAKES.

This production, placed in the centre of the east side of the Nave, is a pendant to one which has already appeared in these pages. The pair are among the best specimens of our inventions for creating artificial heat, as far as regards external appearance; and, without doubt, the glitter and cheerful appearance of this example will be preferred by many to the more laboured work in bronze of its companion. Each, however, must stand upon its own merits; and for the above-mentioned qualities this subject is inferior to none.



ARTIFICIAL STONE.—BY RANSOM AND PARSONS.

ARTIFICIAL STONE. BY RANSOM AND PARSONS.

The artificial stone and marble produced by Ransom and Parsons, of Ipswich, exhibit all the essential qualities of hardness, colour, and surface. The various objects which we have engraved show the applicability of these materials to all descriptions of building and decorative purposes.

FIREPLACE AND VASE. BY THE LADYSHORE TERRA COTTA COMPANY.

The Elizabethan fireplace and the vase which we engrave are very creditable specimens of the taste and finish displayed in the works of the Ladyshore Terra Cotta Company.



HALL STOVE.—BY JEAKES, GREAT RUSSELL STREET.



FIRE-PLACE AND VASE.—BY THE LADYSHORE TERRA COTTA COMPANY.



## CAPRICES OF INVENTION.

INDUSTRY is one thing, and caprice is another, and a very different thing. In like manner, we may say that ingenuity is one thing, and whimsicality another; persevering good-sense one thing, and persevering folly a very different thing: so of workmanship and the production of a useful article, when compared with a prolonged waste of human labour in conceiving and finishing a trifle, a toy, or an absurdity. These things all involve a different species of effort and result, and call for a very different sort of estimate.

Amidst the innumerable examples of well-applied labour in the Great Exhibition, so many of which we have already chronicled, and so many more of which yet remain which merit notice, and shall obtain it as far as our space will permit, it must, nevertheless, be confessed that there are also a considerable number, amounting, indeed, to a motley variety of articles, in the construction of which we are bound to say we consider that much thought, and yet more labour, have been grievously misapplied.

Foremost amongst these we must place Count Duint's "Man of Steel." This is a piece of mechanism, in the figure of a man, which is constructed of seven thousand pieces of steel. Most of them appear to be either springs or slides, and they are so put together and arranged as to be capable of a graduated movement, by means of which the proportions of the whole figure may be expanded from the standard size of the Apollo Belvidere to those of a giant. From these colossal proportions it may again be contracted at pleasure to any size between this and its original standard, as now displayed. The only utility we have ever heard suggested as derivable from this elaborate piece of mechanism, is its applicability to the various measurements of army clothiers or tailors, as it would serve for the figures of men of various sizes. We do not know whether this is the purpose assigned to it by the inventor, as it seems a very absurd one. The same result being far more easily attainable by the incomparably more simple means of half a dozen dummies, or wooden lay-figures.

Dr. Gray, of Perth, has invented a "medical walking-staff," containing instruments, medicines, and other professional articles. Would not a small tin case, or a sandwich-box, have answered the same purpose far better, and far more conveniently, as it might be put in the pocket, whereas the "medical staff" being half so much "shaken" as the walking-staff, would have less chance of fermentation or other injury.

Mr. W. Chamberlain Jun., of St. Leonards, has invented "a machine to record votes." Surely, this might have been accomplished equally well by a more simple and well-known process, which has generally been proved to answer all purposes in this case, viz. by a pen and ink—or, if secrecy be required, by a ballot-box.

An "artificial silver nose" has been invented by Mr. Whitehouse. We will not pronounce rashly upon this; but it strikes us, that, as all artificial noses, both in shape, size, and the amount of nose required, will depend upon the amount wanting by an individual, and the size and shape, in fact, suited to his particular case, the material also of which the nose was manufactured would very often have to be regulated by the special circumstances.

Art-manufactures in mutton fat are certainly a novelty, and Mr. W. E. Hall, of Bideford, exhibits a "a soole, or kind of vase," made of a mixture of mutton fat and lard. We should fear that in a hot summer, or in a cold winter when a good fire is needed in the room, these articles would be extremely liable to a change of form not at all contemplated by the inventor; nay, there might be occasions on which they "ran away" altogether.

Mr. McClinton, of York, exhibits a chain in regular links, the whole of which, we are informed, has been cut out of a solid block of wood: to what purpose, except to the unnecessary length of time such a performance must occupy, we are totally at a loss to conceive. Mr. McClinton has, however, been surpassed by a lieutenant of his, of whom we have heard, and which we do not know where to look for in the Catalogue, who has achieved the same result from a block of wood with the help of no other tool than a penknife. Will anybody endeavour to surpass them both, we wonder, by doing the same thing with a pin?

We do not very well know what to say about the "ostracode," the instrument with a grand name for opening oysters, and bearing a close resemblance to a pair of egg-sippers. It may be useful, or it may cut the oysters into ribs in the operation; we hope not; but Messrs. Brown, of Newcastle, will excuse us if we hint, that, to avoid this, it may be necessary to practise opening oysters with the ostracode almost as much as with the old-fashioned oyster-knife.

"The semibreve guitar" of Mr. Dobrowsky was a good thought enough for a new name, and for a fresh attempt to prolong the sound of the notes of the guitar; but if the inventor would have us understand by the term "semibreve" that his instrument will sustain a note in any such duration, we must plead absolute scepticism to the possibility of any instrument of this kind being made to accomplish such a result.

The enharmonic guitar, manufactured by Panormo, of High-street, Brompton, claims for its original inventor and designer no less a personage than the ingenious Colonel Perronet Thompson, M.P., who some years ago patented a new kind of organ. Of the enharmonic guitar now exhibited, it is announced that it is "capable of being arranged in the perfect ratios for upwards of twenty keys." We do not doubt this; we accept it at once, not only from what we know of the scientific capabilities of a guitar, but of the great scientific attainments of Colonel Thompson; but after his enharmonic guitar has been "arranged" for twenty keys, what will be the effect of "playing" in these and all the other keys? Will it be the effect of "playing" in these and all the other keys? Will it be the effect of "playing" in these and all the other keys?

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Let us look at a bed of a very different kind—one that, so far from making the least pretence to any special utility, presents the most abundant illustrations of how many useless and extraneous adornments can be heaped upon a bed, and how many of them may be added for the purpose of perversion. We refer to the grand bedstead in the Austrian department of the Great Exhibition. The enormity of its bed-posts, and there seem to be at least a dozen of them rising in spires of various heights, with the high relief of the carving, and the massive magnificence of the whole design, and the finish of the carving in all its parts, gives this "bed," if we must call it by such a name, far more the appearance of a great model of a Gothic cathedral than of a bed.

There is a Chinese bed, which, in its way, competes with the Austrian. It is much smaller, but ornamented with all sorts of curious and elaborate cabinet-work, the greater part of which consists of inlaid mother-of-pearl.

Of a similar class to the above, in egregious ornament, we must rank the most splendid of the Oriental article, several of which are so thickly embroidered, as to present a positive relief of a very rough kind. It would almost need the suit of armour, or at least a wonderfully thick leather lining to the seat of the unmentionables, to enable a horseman to ride with such a saddle for an hour without being horribly chafed, if not flayed, by the amount of friction.

The Chinese have long been famous for their caprices of invention, and whimsicalities of workmanship, over each article of which the greater portion of the lives of several artisans appear to have been expended. We find exhibited here some of their celebrated ivory balls, richly carved outside, and containing another, a size less, inside, richly carved also, with open-work, to show you, that there are balls within balls to the extent of twenty or more, each cut clear of the rest, and carved, and capable of being turned round—the whole of these being produced by means of a variety of curious tools and instruments, out of the first solid ball. This, they assert, nobody else can do; and it may be true, for the Chinese are capable of wasting any amount of time upon any triviality. It has sometimes occurred to us, that they may have discovered a certain ivory cement so strong as to be carved upon, and so exactly of the colour and character of ivory as not to be distinguishable; and if so these balls, instead of being all carved and hollowed from the solid round, may each have been cut in two, which would render the entire process easy in comparison, or at any rate would rob it, unfortunately, of the greater part of its difficulty. But this is only a speculation; we

admit that we have never been able to detect the sign of a joint, and we never heard of one of their balls coming in two pieces, or even showing an artificial crack. But the Chinese are not the only people who have a love for difficulties, for the sake of the unnecessary labour and time they involve, which gives the article so much additional value in their eyes. If Quang Sing, of Canton, carves and engraves upon peach-stones, and makes baskets and boxes with the stones of apricots and nectarines, Mr. Jacob, of Coventry-street, displays egg-shells with carvings and engravings upon them, and "views inside." If Shee-king, of Macao, delights in wasting his own life, and the lives of others whom he employs, in carving a nest of ivory balls out of one solid ball, instead of obtaining a similar result (if the world must have these toys) by the regular tools and simple means of ivory workmanship, we find several of our own countrymen equally assiduous in substituting a common penknife in order to perform operations which proper tools would effect far more easily in a tenth, perhaps a hundredth part of the time. There seems, in fact, a sort of mania for this penknife-work. Mr. Aston, of Chelsea, executes a model of St. James's Church, South, in cardboard, with a penknife; Mr. Scollie, of Birmingham, exhibits a model of St. Paul's Cathedral; and Mr. Dickinson, of Waterloo-place, a model of York Minster, each in cardboard, and each employing no better instrument than a penknife. M. Schnitzer, of Jerusalem, exhibits two vases carved out of a species of sandstone found in Jerusalem, with a penknife, which the proprietor, Sir Moses Montefiore, takes care to inform the world was "an ordinary penknife."

In the windows of most of the great cutlers of London may be seen knives with an extraordinary number of blades; and on the ground-floor of the Grand Exposition is exhibited a large glass case, as big as a handsome summer-house, full of all sorts of fine cutlery and other workmanship in steel, the most prominent features of which are several of these preposterous knives. Some seem to have 50 blades, of all sorts of shapes and sizes, others 150 blades, and one or two of them, we feel assured, cannot display less than 400 or 500 blades. To accomplish this capricious feat, the inventors are always obliged to have recourse to a strangely thick handle, of an utterly impracticable kind as to all handling; and in the glass case now before us will be found, one in the shape of a cross, thus combining four handles, each one crowded with blades; another has the handle in the shape of a star or double cross, thus combining six handles, each one bristling with blades, and arranged at the end of each handle in the form of a fan of bright penknives and blades of instruments. But all these are surpassed in capricious ingenuity by a "knife," the handle of which, if we must call it so, is a combination of three handles, each in form of a cross, the largest being in the middle. The three crosses are combined by an upright shaft, and each of the three comprises four handles. Thus, we have twelve handles in one, and from each of the twelve there sticks out a shining fan-work of blades and steel instruments, of all conceivable shapes, and all real or imaginary offices, not one of which could be put into operation amidst such a crowd. It is one of the most wonderfully useless things we ever saw. As to the number of blades and tools, they defy calculation. In the same case may be seen miniature knives, which are actually of the same kind, and present numerous blades from a handle of an inch and a half in length. There are also miniature knives and scissors of an inch long, of half an

inch long, and of a quarter of an inch long; and, by way of completing the wonder, there are twelve pairs of miniature scissors, placed in little brass scales, which show that the whole twelve only weigh half a grain. They require a microscope to be seen properly, when it becomes manifest that they are perfectly useless scissors. We suppose Messrs. Rodgers would say, in explanation of all this fancy-work, that the use of it was to show the world what Sheffield could do, not only in work, but in play.

An American inventor exhibits a combination of the pianoforte and violin, with which he assumes that pieces can be played with the effect of those two instruments in concert. Something like this, no doubt, may be accomplished by giving an attachment to the piano, which shall produce a resemblance to the sound of a violin; but in the present instance the inventor has literally attached a violin, played upon by four bows, which are put in motion by a separate set of keys on a small upper finger-board, which cause the bows to "saw" (as we may truly say) upwards and downwards, with an effect which we frankly confess to be indescribable. You can see the whole operation; and a more ludicrous thing both to see and hear, it has seldom been so lot to experience.

An inventor exhibits a model of a carriage which supplies its own railway, laying it down as it advances, and taking it up when the wheels have passed over. This is extremely ingenious; but, unfortunately, it supposes the existence of a level line for the operation, so that its utility becomes rather questionable.

A drinking-glass is exhibited, with a partition for soda and acid, to be seen mixed separately, the junction of the two streams effecting combustion only at the moment of entering the mouth. Few people could "stand this" we should think.

The model of a ship is made with bottle-corks, and rigged in the same fashion. The object of this we cannot fathom.

Mr. Cossens, of Holborn, exhibits a model made in elder pith; and Mr. Clifford, of Exeter, displays models made of "the pith of the common green rush," which he carefully informs us is such as is "used in making rushlights."

In one of Hogarth's prints there is a capital satire upon the expenditure of extraordinary means to produce a simple result. You see a pile of complicated machinery, which indicates that an operation requiring great power is about to be displayed. The skill of the artist in the design and in the arrangement of light and shade directs the eye to travel about and examine the various parts of the machinery in order to ascertain the work it is about to perform, when finally you discover at the bottom of the great machine an ordinary wine-bottle, the neck of which is corked, and the whole of this machinery is evidently employed in "drawing the cork." Of a similar kind of elaboration in order to effect a very simple object, we fear we must class some of the new inventions in hoist and flutes, to the former of which many complicated crooks and curves, and to the latter many scarcely practicable keys have been added, merely to enable the instrument to produce a certain note which might be omitted with no great loss, or produced by other means. Nothing injures more than a superabundance of mechanism. Vivier always plays on the old French horn, without any of the present complicated improvements, and Nicholson used to play on a flute much simpler than many now exhibited, and we have never heard of any performer who gave so much tone to the instrument.

In like manner, we find an exhibitor who displays a model cottage composed of 2000 pieces of willow wood (these also are all carved with a penknife); and there is a table to be seen which is composed of 2,000,000 of separate morsels, all inlaid in mosaic-work. The practical philosophers and economists of modern times complain of the great waste of human labour in the construction of the Pyramids of Egypt—let them go and look at this table.

Now, we are well aware that a thousand reasons may occur to the minds of the inventors of these curiosities, whereby they may persuade themselves that what we have called "caprices" are so many instances of genius; and a thousand letters might be written to us with a view to set us right in this particular. But this would be merely adding to the waste of time. It is not a question of argument, but of fact. There are the articles now to be seen in the Great Exhibition; and those who are interested in the point can go and inspect them, and then ask themselves, "Are they useful?" We acknowledge their cleverness—in some cases, their extreme ingenuity; but there we stop.

## CLOCK, BY SUSSE FRERES.

This time-piece, intended for a chimney-piece, is in bronze. Above the dial is a figure of Apollo; and on either side of the face are bas-reliefs of Venus and Diana. It is nicely executed, and, altogether, an elegant drawing-room ornament.



CLOCK, BY SUSSE FRERES.

## MR. CATLIN'S INDIAN FAMILY AND ITS MANUFACTURES. A MUSEUM OF MAN IN THE EXHIBITION.

SINCE our first notice of the Aboriginal productions in the Exhibition, Mr. Catlin has brought the articles here mentioned out of his famous Indian collection; and unquestionably these almost solitary specimens of Indian industry make us largely Mr. Catlin's debtors. Their completeness so amply compensates their paucity, that he may be fairly said to have obliterated the neglect of others, in not eagerly seizing this happy occasion to display Aboriginal merit. The truthfulness of expression in the quiet features and attitudes of these two Indians proves how well Mr. Catlin has studied a race which may make his countrymen great in sculpture by its abounding in "models only equalled in Greece." and his judicious observation of this fact is gloriously supported by the contribution of Hiram Powers to the Exhibition.

These few signs of the occupations, the tastes, and the affections of the denizens of America will not be among the least suggestive of the cheering subjects in this great assemblage of man's works. The well known enterprise and ability of Mr. Catlin need no encomium; but the one little group he now presents to us is far too remarkable in itself, and in the bearing on the tenderest affections of the heart, by asking sympathy for his people in the person of his child. He also calls our reason in favour of his race, by pointing at the Indian mother's ingenious and laborious handiwork which mantles the girl.

Who can reflect on the story told by this group without a pang, at the cruel impolicy of leaving such germs of civilization unprotected and undeveloped? We are unable to destroy the brown man everywhere, willing as we are to do it, and after all the horrors perpetrated wherever white men have gone, that brown man is more erect before us than ever.

Mr. Catlin's chief here tells us how we may mend the melancholy past in this matter. We must treat the less civilized races as we would ourselves be treated, and bring them within our kindest community of social sympathies. So much is taught in the portraiture of the Indian's child.

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Mr. Catlin's chief here tells us how we may mend the melancholy past in this matter. We must treat the less civilized races as we would ourselves be treated, and bring them within our kindest community of social sympathies. So much is taught in the portraiture of the Indian's child.

Furthermore, the curious and useful clothing of them both; their gay ornaments, and rude historical symbols, shew how steadily and pleasantly, and reflectively, too, the Indian's leisure can be employed.

Dress of the Chief—Deer-skins, with beautifully tinted porcupine-quills, and scalp locks. The head-dress is constructed of war-eagle quills, and ermine, surmounted with buffalo horns, cut thin and polished in the way usual with the Jews. The necklace is made of the grisly bear's claws; a lance in his hand, and a bow and arrow slung at his back. His tobacco-pouch, of otter's skin, hangs across his arm. His moccasins are of deer-skin. Dress of the girl—Dressed skins of the mountain sheep, which are softer than deer-skins. Moccasins, or beaded boots. Wampum or necklace and ear-rings of the bivalve fresh-water shells, and necklace of elk's teeth, which are rare.

Of these various articles on the person of the Chief and his daughter, it will suffice to select one for special notice.

This is the woollen robe of white, yellow, and black colours, on the girl's shoulders. It is manufactured by several women, of the wool of the wild sheep of the Rocky Mountains, a thousand miles beyond the limits of civilisation. The work is many months in completing; and justly is the challenge offered here, as Mr. Catlin himself is known to have offered it elsewhere, to discover the secrets of this curious work, or for the looms of England to copy this truly splendid fabric. Its dyes, its texture, and its symbolic figures, are all studies. For warmth, it is perfect; whence its teaching and origin, are great mysteries—whether connected with the labours of the sisters of fute of classic antiquity, or with those of the weird sisters of the north, are points alike obscure. The identity of this Western industry with that of the East will not fail to strike every observer; and it is earnestly to be hoped, that may of the hundreds of thousands of Indians, who are met this Indian family, will feel how urgent is the call on us to lessen the evils of their condition.

These valuable products of native American ingenuity, unaided by the resources of capital, or by the advantage of subdivided labour and machinery, give the red Indians a title to our consideration. Such things may be said to give a community of industry and taste, and fully justify the resolution passed at the Peace Congress, that the rights of the suggestion of M. Girardin, of Paris, that the aggressions of strong nations upon weak aboriginal tribes ought to be abhorred.

Upon what principle can we refuse the protection of the law of nations to men whose capabilities are thus demonstrated to be equal to our own, and whose hearts are proved, by all we know of them, to be like ours. It is this equality of treatment by law that must now be established on the firmest bases. If we would but respect in their case the rights of man, of which in our own we rigorously enough exact the observance, less would be heard of sanguinary conflicts between barbarians and civilized men, which are the great disgrace of our time.

These Indians and their works suggest a powerful motive for making the Exhibition permanent. Groups of such figures of all nations, correct in costume and features, would have peculiar attractions. The wax-work in Westminster Abbey, the Madame Tussaud's gallery are the amusement of children compared



with what might be assembled here. Mr. Catlin's collection should be bought for the Crystal Palace; and thus, with many others of a like character, be saved from dispersal. Thus would be realised the idea of a Museum of Man, so brilliantly exemplified in Captain Shippard's large historical map, for the purpose of popularising the lessons of humanity to our fellow-men in every clime. Lectures on the whole subject, especially on an improved international code, should be read in these ethnographical galleries, to all the schools in turn, as well as to the public at large. History and descriptions of manners might thus be brought to bear particularly upon questions of policy; and what began in amusement, will end with instruction.

The American merchant Mr. Dunn's Chinese collection was an admirable example of what could be accomplished in this way. It must be museum there should, of course, be combined foreign occupations with national portraits, and foreign productions with the native mode of raising them.

Here would be found a frequent attendance of the Indians from America, the native African, the Hindoo, visitors among us; and a school of modern languages might with care be formed in a winter garden of perpetual spring. Mr. Paxton has not yet directed sufficient attention to this element of high utility in his famous design.

## LETTERS FROM LONDON

THE GREAT EXHIBITION AND OTHER MATTERS—  
BY PLEGE E. WHEELER.  
WITH AN INTRODUCTION BY BAYLE BERNARD.  
(Continued from page 136.)

LETTER VII.—TO DR. HIRAM TUCKER, MOUNT CLEAR VISION, PENOBSCOT.

THE EXHIBITION—ITS RELATIONS—FIRST IMPRESSIONS AND GREAT CONTRASTS—  
—SAXON AND CELTIC—FREE AND FETTERED RACES—SPECIAL FEATURES AND  
DISTINCTIONS—CHINESE, INDIAN, RUSSIAN, GERMAN, ENGLISH, AND AMERICAN  
—CONCLUSION.

RESPECTED DR. TUCKER,  
WHAT'S a man to do when he ought to talk and can't—when he's so full he can say nothing—when he's so wise it makes him stupid—when he's got a lump of gold in pocket, and not a cent by way of currency? If you choke a stream in that way, of course it overflows; and if you stuff a skin, you bust it: but it aint so with the brain; its doors seem to open inners, and the more its packed—the more it seems to jam the latter fast. I vow if I aint my own case—more if I aint in a most uncommon fix, Doctor; if I aint as bad off as a fox with a spring trap in his gizzard. You know what was my business here, to see the Exhibition; that was my chief end. Whatever I saw besides, the old country and the folks in it, and the grand old mammoth capital, my real and special purpose, not only from our townships, but all the intellect and enterprise, I may say, of our State, was to give a full and true account of the world's wonder in the Park—a clear plan of the Building, and a list of its contents, that should serve as a public document for libraries and archives; the substance, size, and valley of every article exhibited, with names of owners and of purchasers up to my latest writing. And how have I proceeded? Why, I accordingly took a lodging as near to the Warehouse as I could; and here for a full month have I been going to it daily, for nine hours at a spell, winding my way about it with my eyes upon the stretch, just as prying as a weasel and as supple as a snake; taking every section on't, long and cross and sideways, middle path and side ones, courts, and tents, and galleries; pulling round by this post and mooring by that counter, climbing up one staircase, and diving down another, 'till I vow if I believe it's got an implement or fabric I aint squeaked at or handled, or a foot in its twenty acres but mine's been over twenty times. And what on airth's the upshot? Why, as I tell you, Doctor, nothing! I'm so knowing I can't speak. I've swallowed such a lot that I aint able to digest it. I've got what you call a surfeit; feel as if my brains were busting, and the only way to save 'em is to hoop my skull with iron.

So you see the fix I'm in, Doctor, and what a blistering I'm getting; when letters are coming daily, wondering what the snake's the matter; why in the plague's name don't I write—I've seed the show by this time, and why don't I describe it—just the Building and contents on't, or the contents alone—that's all. You remember Assa Whipple, when he'd a mind to stand for President, and the Deacon said he had only to make the Union think as he did. "Yes," said he "that's all," and I rather think I'm like him—all I've got to do is to make our people think as I do—look and feel with my five senses—that's all—quite a trifle. Why, good nation! Doctor, if I was stumped in describing London, and for no reason but its bigness, because, as I said, it's a Congress capital—a hundred gild together, what the dogs am I to do now, when this show is just like nothing that was ever seen or heard on since the arth began to spin—when it's so new as afresh come, and so easy to make out; when it's as strange as a law of matter that's got to show us its results? Size aint the greatest wonder, except it's to a savage. Multitudo's as wonderful, and so agin's variety. There's no mountain that can puzzle you like the million plants it nourishes, and there's no human work whatever that can paint the look of this: you know there's no knowing anything unless you've a scale to try it by; and so, s'posin' I was posses'd of a thousand lawyer power of talk, and could make a team of the strongest epithets to drag the idea before you, I want to know where'd be the valley if you'd no standard in mind to try 'em against? I guess that it was a fact? 'twouldn't 'vantage you a cent, and I should only waste the paper, and you an uncommon sight of patience. Still there's a track through every word, Doctor; and granting I can't say everything, is that a reason altogether that I shouldn't speak at all? Granting there's no doing justice either to the Building or the things in it—its million looks of beauty and skillfulness and use, aint it possible to give a notion of its general effect, and by means of its special features, and its broad and grand distinctions, to hand you in material with which to build the place yourself; I supplying walls and basement, and you, with your own fancy, putting in the lath and plaster? I guess that's our only plan, Doctor. 'Taint the only case you've heard on, where we can't do all we wish, nor that we've found out that our duty is to do the best we can.

Well, then, Doctor, the first thing I've got to say is, that this great show of the Park has got two kinds of relation—first, to its own time, and next to its contributors; and, to begin, I want to ask what's the nature of its own time—aint it that of progress? Has there ever been an age when the great interests of our speshy went ahead as they do now—when knowledge was so diffused, or so applied to useful purposes, when the stream was so swift and deep, or put so many wheels in motion? But that aint all my question; what began the current? 'twant spontaneous like combustion; it must have had a source, and what was that? Why, our own great revolution. Yes, Doctor, that's the fact; however, it may be lar'd at, it aint to be upst. The independence of Ameriky was the first move in that of man's. Jist note the steps that foller'd it, and see if they aint as regular as rounds upon a ladder, or sleep marks up a hill. Take the first—the stir in France. Didn't that come out of cum? If want and tyranny laid the fire, didn't our cinders kindle it? Didn't a whole raft of her young patriots come and serve their time with us, before they went home with Larfy's, and set up for themselves? And after her great flame had travell'd over Europe, shrivelling up old feudalism and other weeds of that sort, didn't it flare across to England, and send into it a heat which burst out at last in reforms and abolitions? first of the white slaves in the country, and then the blacks abroad; and side by side, or following it, wasn't there that grand current of discoveries which aint half completed yet, and which has made the time we live in an age of revolution? Take gas as a beginning; gas which push'd aside lamp oil, that type of old world notions, that had neither strength nor steadiness, but was altogether dim and gloomy. Then steamboats, grander still, to put an end to sailing—another old world notion that made us slaves to wind and tide, when here came in a principle

that raised the slaves to masters. Warn't that a revolution? Then steamers upon land, when the rail displaced the waggon, and the "iron horse" was found to have the best idea of going; and then, to cap 'em all, the telegraph; when roads were made of wires, and thoughts were sent a travelling a little quicker than their skulls? I want to know whether each on 'em warn't a first-rate revolution, and whether all on 'em warn't owing to the one that we ininted?

Well, Doctor, it being the fact that ourn's the age of progress, what's the Exhibition? why, it's the grandest evidence and most triumphant symbol; the noblest emblem of the triumph of the peace and industrial principle over the aggressive and destructive; the surest hope that human good is made to conquer human evils, and proof that peaceful intercourse begets the knowledge that extends it. This is its first relation, Doctor—its connexion with its age; but it's got another—to its contributors, and what's that? why, simply this, that it's a something more than a proof of progress, it's also the best measure on it. If it's a table on which the world has recorded its advancement, isn't it clear, also, that it's a scale to ascertain each part of it—a gauge of improvement from the past to the last, whilst it also serves to show both what marks and what connects them? Thus, if England and Ameriky contribute use and substance—France and Italy, fine arts—and the East, luxury and splendour—aint it clear, that, whilst you see the rank of each in cultivation, you see also what they want to make their own possession perfect. To know our wants, is our best knowledge, since it is that that stirs up our energy; and this is the Exhibition's vally, if we choose to understand it; to prove by direct comparison what each people stand in need of, and so urge 'em to take theirs, its great beauty and distinction, that it seems to combine within itself the scheme of a complete industrial system, only the elements, at present, scattered over a hundred courts and counters?

And now, what was my first impression when I entered the Peace Palace? I've already spoke about its substance, its shell of glass and iron, and said I held it to be typical, denoting the strength and clearness that our speshy stand in need of; and I spoke also of its form as carrying out this notion, being low, and firm, and practical, taking a good hold of the airth; but there was another fact that struck me as being as pleasing as the rest, and you'll see, jist as appropriate, and that is, its direction. It lies from east to west, Doctor, which, as you know is the path of progress—the direction it has taken from its rising in Chalden to its setting in England, from the plains of Shinar, all the way to the prairies of Winconsin. Westward it has moved allers, and westward 'till it continue until it has gone clean round the globe, and reached its point of starting—till it has spread its light and liberty through the last abodes of savageness. So you see this Mr. Paxton has got some clever notions, and here was the ground of one, as good almost as that of the show itself. But now comes the hitch, Doctor; how do you think it has been carried out? As the Building contains products from all quarters of the globe, they aint, of course, upon a level—some are forward, some are backward. Here's Toonin's Turkey, and China, making and using at this moment all the implements and fabrics that were in wear among the Patriarchs. When you look at their contributions, you see sand, and smelt hot air. There's a desert right afore you, and lazy camels lounging over it, jist as the whole world used to lounge when time was of no vally; and here's England and Ameriky, with their steam and rail and telegraph, showing what the world requires in the ery we've got up to. Now, you see that these five countries form the two ends of our history—the old world and the new—man as he was in infancy, four thousand years ago, and as we see him now in manhood, in the times and lands we live in. Now don't you stand to reason that the direction it has taken is ranged in the order of their progress; that the pathway of the Building, lying as it does from east to west, should have been made to represent the actual path of history, by clapping Ashy in the east of it, and Ameriky in the west, and Europe in the centre? Wouldn't this have made the Building a grand diagram of history—a model of the world's progress—when its pathway down the centre would have shown Time's westward track, and the nations on each side of it the stages of its movement? Warn't that a truth worth teaching? They talk of the Show's vally as a means of education—say that's a very good idea, and so do the great objects; and accordingly all the schools have jump'd into it like mill-streams, and professors by the coach-load have jump'd upon its counters to lecture to their pupils; and if this notion had been effected, jist see the world of knowledge their young skulls might have been pack'd with; they'd have learnt history with a look—taken in the pith of libraries by one movement of the head—seen the two ends of our history opposed to one another, and the steps that mind has took to reach its present statter: wouldn't that be education, and something worthy of our age? Not crawling along to knowledge by the old school route of going, but flying by the system that teaches things instead of signs, and offers the mind the kernel, whilst it throws away the husk. And what do you think the fact, Doctor?—I know you won't believe it—why I vow if these Commissioners aint the biggest fools in Europe; if they arn't gone and turned the Building into one long stupid blunder—made it a jumble jist as bad as if the different countries had all been shook together by an earthquake or a whirlwind. They've actually clapp'd Ameriky at the east end of the pathway, England at the west, and Ashy and Afriky right smack into the centre. What do you think of that, now? Aint that a view of history?—aint that a proof of fitness to assist in education? 'Woudn't you think such a set of fellows had had better done in 'em, and come to London in a flock, to represent their brethren?

But what were my next impressions? Now, if the great fact of this Show is its wonderful variety, rendering it altogether impossible I could give you a just account of it, you'll see that all that's feasible is my singing out such looks of it as show the big varieties, whilst I let alone the small ones. When we go into strange countries we see a dozen leading features—in its governments, its townships, and its general social system—which are all so many circles running one into another; and we take one of these, perhaps, as a sample of the lot, and that's the road that I go, jist to take up the varieties that show the Exhibition's progress, and finish with special features in each country's contribution. Now the first difference that struck me was in regard to human races—the opposite track that people take in enterprise and product; the Saxon race, on the one hand, going for use and gain and substance; and the Celtic, or the southern ones, for beauty, show, and splendour. The one working for the wants and solid interests of man, and 't'other for his pleasures and his personal adornments. Now, whilst it is clear that both are needed to satisfy his nature, and develop industrial energy by labour and exchange, still we've heard the question ask 'd—which of the two is superior, and likly in the end to have the whip-hand of the world? Now, that's a point, I think, that the Exhibition settles, for it claps the fact before you; that, whilst the Celtic folks show nothing in the way of useful science, contribute not a fossil to the actual wants of man, the Saxons, on the other hand, not only furnish every thing, but are able, if they've a mind to't, to do their neighbours' work as well. Side by side with their steam-engines, and solid furniture, and implements—they also show their marble statues, their silk, and lace, and gold-work, which is plain that time and practice will make as first-rate as their knives. They also can do the fine things as well as the good and strong ones; make a table for men to eat at, and a chair with carved legs, and a set of fellows had better do it. If society requires the union of the useful and the beautiful, and one race can do but one on 'em, and 't'other can do both, I want to know if 'taint as plain as 'rithmetic can make it, the Saxons are the cleverest, and must one day hold the whip.

The next difference that struck me, Doctor, was the influence of climate—the great fact of the inequality of the four quarters of the globe. Whilst Afriky and Ashy seem to work but for themselves, contribute little man can use out of their own infernal regions—whilst they've neither strength nor skill to compete with northern industry; Europe and Ameriky, it's plain, can work for the hull world, and send no part of it, Doctor, as regards our race's destiny? Don't it point to the two fields of its ultimate exertions? Don't it shew that man's a plant, who, if form'd to take root anywhere, in moderate climates only can come to its perfection? Whilst a third difference agin, Doctor, was in respect to insititoshun—was the difference of aspect between the free and fetter'd races; and here agin this Exhibition is a great book of instruction, every leaf of it having a lesson that may be pondered with advantage. Now, I needn't tell you, Doctor, my opinion upon slavery. If there's a man in the Union hates it, his name's Peleg Wheeler; if there's

aman that thinks it not only a cuss and stain upon our country, but 'twill one day be its ruin, if 'taint pretty soon got rid of; it's him agin jist mentioned. But, at the same time, let's be jist, Doctor: slavery aint confined to skin; there's plenty on it in Europe—millions there of white men, as much degraded as our blacks; so the clear course for a man is to take it under all forms, wherever he finds it lurking, in whatever skin or country. And arter its first offence, its great sin agin humanity, what is it we should hate it most for? Why, its obstacle to progress. When you make a man a slave, 'taint only he's no more a man, but he ceases to live for men—he lives only for his master; he's an animal that's only useful to the hand that holds the whip, and only lives for food and slumber; the world then loses all the good that would have come out of his freedom, that's been crushed in his mind and energy—and here's a signal proof on it. What has the slave sent to the show? raw produce, nothing more; jist the product of land, use, and beauty? who but the freeman, Doctor? the freeman, who works for all humanity?

And now, to finish off with jist a look all round the Warehouse, and a word on what I think the special feature of each sample; and s'pose we begin w'ith China, as that's the oldest country—China, that has allers been first-rate for making puzzles, and that we have allers said, Doctor, was the biggest one itself. Now aint't the pictur in their teacups an image of the people? Three fellows on one leg going over a bamboo bridge, which is a very thing they're famous for, and you can see, and that they're at it still, and harn't got over yet. Aint that the China mind—a lot of motion, but no progress? skill, and sense, and industry, all wasted upon trifles? Don't they still go on cutting twenty balls within one another? making lamps like scooped out pumpkins, and Chinyemen to shake their heads, as if at their own inventions? Aint these curus critters jist the big boys of the world? and aint that their sample's character, jist the big boys' contribution?

Next take Ashy gin'rally, Ingy, Turkey, Parsy; and what's the feat'ure there? why, if you want it in plain words, Doctor, it's the wild beast contribution; it's nothing else from first to last, but a piece of homage to destruction—a grand flaring glorification of selfishness and slaughter; not an article amongst it for the use or good of man, but all tributes to his vanity or engines for his death—pistols, swords, and daggers, all bright with gold and carving, or warriors' dresses, kiver'd with jewels, and nashing like the sun. A pretty sample, aint it, to send to a Peace Palace? unless it's by way of contrast to its furnitur' in general: jist as we see, on a doctor's shelves, poisons and antidotes together. Though there's one thing in the lot that I must say is satisfactory. Hanging up amongst it are skins of tigers and wild beasts—who, of course, must be considered the fighting man's grand ancestors—the models, for the most part, of all true martial heroes. So you see these skins were wanted as a piece of full reverence, and serve, as I consider, to stamp the whole collection.

We'll next move into Europe, and take its two big empires, Austria and Rooshy, and what do we see there? a mix'd look, not a doubt. Implements and fabrics, both for human good and injury—and skill, and taste, and energy employed in both directions, but the good in 'em the least part, and that not meant for many, but shown in things of luxury, for the enjoyment of the few, and in art, which is prevalent. Here Europe heretofore white slaves, men fettered to the soil, and bought, sold, and worn out with it, at their lord's and ruler's pleasure. This explains the curus mixtur' of these grand Imperial samples—the good was produced spontaneously, the bad to please their rulers; the man worked for his fellow-men, the bondsman for his master. 'Tis the white slaves' contribution; and moving westward to North Germany, to France, Switzerland, Belgium, there we see mind spreading like the light and heat of sunshine. We see the collections rising both in use and human feeling, growing good and beneficial, and at the same time universal, not for the service of the few, but for the use of all humanity; till at last we come to England, the great head of Eastern progress, and behold in hers the great triumph of fraternal contributions!

Yes, Deacon, it's a fact, in the friendly fight of the Exhibition, England's won the day. In this race between all nations she has carried off the prize. Measured by the interests and demands of human welfare, her collection is the jam—the top notch of the whole, first in all departments of practical utility, and second only to the first in all the fields of taste and beauty.

And how about Ameriky? Well, it's no use to disguise it—the truth was known some months ago, it's too late to speak in mystery; the fact is, Doctor, that the failure—an indispensible failure—and the shame is all the greater, because the fault is all our own. Everybody knows that we've a flood of first-rate notions in every field of science which we haven't been pleased to send, which, either through prejudice or meanness, we have been such fools as to keep at home. And what's the consequence? Why, of course, that we've vallied at our own estimate; and the poorest critter of a European has jest justified in sneering at us. We've willfully damaged our own character, and almost want a show of our own here to wipe off the disgrace. The only thing we have made a stand in is the article of sculpture. The only look we hang by is Hiram Power's statue—That "Great Girl." It's admitted, is the star of the Exhibition, notwithstanding there's a whole raft of marble gals beside her, every one of which deserves a pair of eyes to look at. That's all our consolation. If we show nothing in invention, we've done s'uthing in imitation which whips Europe out of sight. In sculpture, if not the sciences, we've gone on ahead, full hile; but for any novelty, tho' we're jist as I was expected from (and that makes my wrath the greater, seeing, as I do, the disappointment), why—eh—yes; hold on a bit; we have shown some invention—done s'uthing that's quite original. What do you think, Doctor, of the art of sandpapering? Aint that the idea, and what's more, illustrated in the immortal head of Washington—the face of our great deliverer actually sculptured out of shaving stuff; and his grand and manly mouth looking as if 'twas bursting into lather! Aint that a splendid notion. I guess that whips the world. And so, as my say is ended, I remain, dear Dr. Tucker,

Your faithful friend and servant,

PLEGE E. WHEELER.

## GREATOREX'S HOISTING MACHINE.

CLASS 5, No. 415.

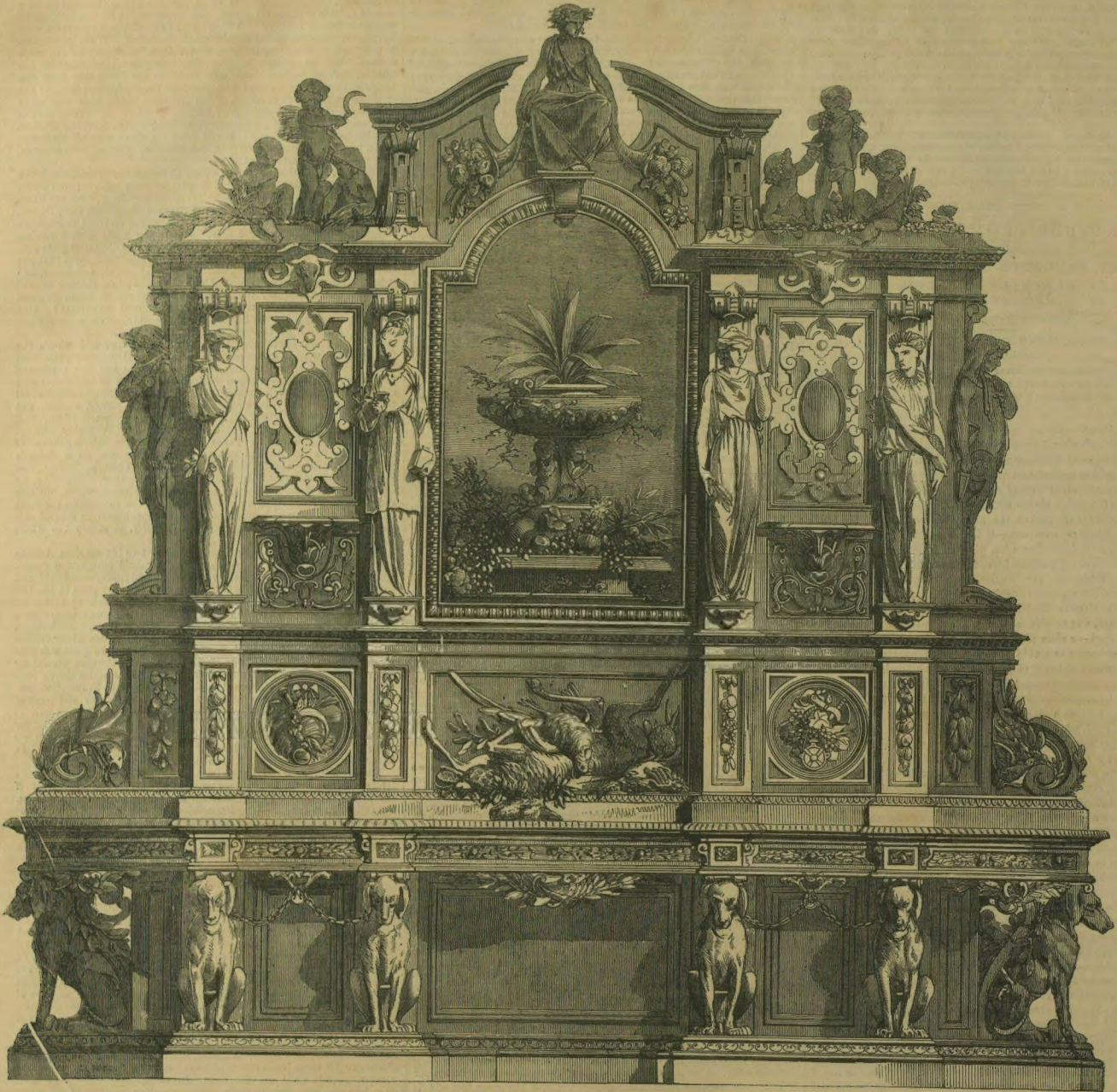
HOISTING machines, or "lifts," were originally invented to supersede the use of cranes, derricks, and tackles, especially for the interior of Manchester and other large warehouses and buildings, which, from time to time, have been much improved in many of their details; and which are now in very extensive use, not only for warehouses, but also for club-houses, hotels, and other large establishments. In London, the extensive warehouses of Messrs. Bradbury and Greatorex, and of Messrs. Morley, Baker, and Tucker respectively, are fitted up with such machines; and also the Royal Arsenal, Conservative Army and Navy, and other clubs. In the latter case, however, the use of these contrivances is chiefly for elevating and lowering to the different floors, dinners, breakfasts, &c., so that hot closets are required to be appended to them. Not only was such a contrivance designed for the present Fishmongers' Hall, but also a "hot plate dining table."

The chief advantages of the lifts are economy of labour and space, together with the great ease and rapidity of raising or lowering goods to or from the different stories of buildings, instead of carrying the same up and down stairs.

The principle, however, of the "lift" is of far more extensive application to public buildings for ascending rooms, especially in the case of lofty erections. The Colosseum may be mentioned as a building in which such apparatus was found to be very useful, as an ascent to the top by the ordinary stairs is very fatiguing. Lifting rooms were proposed for the stations of the intended City and West-End Railway, designed to be carried by a spacious tunnel under the New-road and City-road respectively.

The machine is supposed to be fixed in a section of a building of the warehouse class, and may be worked either by hand or steam power from any story. It contains a vertical iron shaft, on which is ordinarily in use, as in the case of the lifts, a great number of pulleys, and the machine, the break released, and the endless rope on one side of the pulley being pulled, causes the box to ascend or descend to the particular floor





SIDEBOARD.—BY FOURDINOIS.

as required, when the whole is instantly stopped by turning the break-handles, on the right-hand side of the apparatus. One such break-handle is applied for each story. There are both fast and slow motions, according to the nature of the loads required to be moved; and these are available on any floor, by simply turning to the right or left the handles under each of which is an index-plate, with the words "fast," "slow," or "out" (of gear), respectively marked thereon.

The model is constructed to one-eighth of the full size, and represents a machine capable of raising to a height of 50 feet about half a ton, by the labour of two men, in about two minutes. This is with a slow motion. It is perfectly manageable with half the weight by one man; an additional balance weight being provided in the centre, gives additional power, and can be applied at any moment. A break motion, a simple arrangement, is fixed inside the box to enable any person to descend without additional assistance from any other floor of the building, and to stop at any other floor to which he may desire to go.

SIDEBOARD. BY FOURDINOIS.

This, which is undoubtedly one of the best pieces of French furniture sent for our exhibition, deserves particular attention for the thought which has been bestowed upon its design; and which is more evident therein than in any other similar work of foreign taste.

The four figures, instead of being the usual repetition of the emblems of the

quarters of the world, are representations of the dessert, wine, coffee, and tea: beyond this judicious choice of ornament, the spectator observes that the intention of each figure is so clearly and cleverly marked as to be unmistakable; this is a virtue too often wanting in more ambitious works, to be passed over in silence. The figures on either side

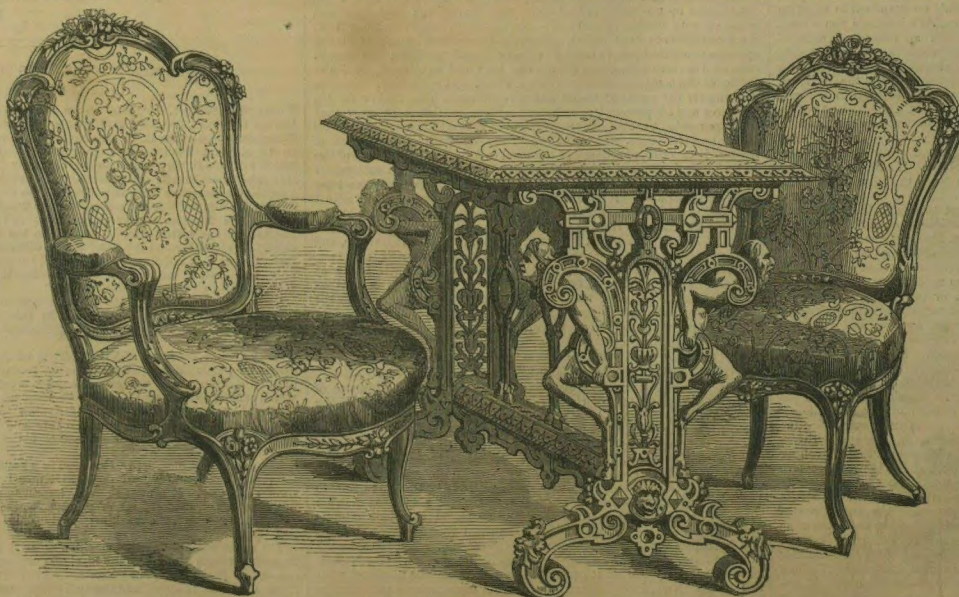
represent fishing and hunting; all are beautifully sculptured. The little figure at the top of the design is too small; and the petty conceit of coupling the dogs at the base, although a topic of admiration for young ladies and gentlemen, is too serious a breach of taste to be slighted: the deer resting on the banquettes, or rather where the banquettes should

have been placed, is likewise a specimen of that false spirit of æsthetics, which supposes that because nature is beautiful in itself, literal imitations of nature are equally beautiful in all places. It will be noticed that the Engraving shows the picture which occupies the centre of the design as darker than the whole framework; this is the reverse of the fact, but its success shows what ought to have been the case.

It is to be regretted that anxiety for brilliancy of effect has caused the introduction of side brackets for lights between the figures; now the middle division is lighter than the lower and upper spaces, and the top is heaviest of all.

FURNITURE. WEBB, BOND-STREET.

The table, exhibited with two chairs, claims to be Elizabethan, and of old workmanship, from its apparently free and careless handling; nevertheless, the carving of all the three articles is equally beautiful. The table is a very pretty, well-proportioned design, and is superior in every respect, but that of execution, to the chairs, which are left quite plain as the back, in the French fashion, and are too loaded with projecting ornaments to be used with comfort.



FURNITURE.—BY WEBB, BOND-STREET.



